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Transcript of 16th CONTU Meeting Held at Chicago, Illinois on September 15-16, 1977

Nat. Com. on New Tech. Uses of Copyrighted Works, Wash., D.C.

Sep 77

NATIONAL COMMISSION ON NEW
TECHNOLOGICAL USES OF
COPYRIGHTED WORKS (CONTU)

HELD: 9/15/77 at 10:30 A.M.
       Room 2119
       Federal Building
       210 S. Dearborn Street
       Chicago, Illinois

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NATIONAL COMMISSION ON
NEW TECHNOLOGICAL USES OF
COPYRIGHTED WORKS
(CONTU)

VERBATIM REPORT OF PROCEEDINGS of

Commission meeting No. 16, held on September 15th,

1977, at the hour of 10:30 o'clock A.M., in Room

2119 of the Federal Building, 210 South Dearborn

Street, Chicago, Illinois, presided over by JUDGE

STANLEY H. FULD, Chairman of the Commission.

MEMBERS OF COMMISSION:

     JUDGE STANLEY H. FULD, Chairman,

     MELVILLE B. NIMMER, Vice-Chairman,

     JOHN HERSEY, Commissioner,

     ARTHUR MILLER, Commissioner,

     RHODA KARPATKIN, Commissioner,

     ROBERT WEDGEWORTH, Commissioner,

     DAN LACY, Commissioner,

     WILLIAM DIX, Commissioner.

STAFF MEMBERS:

     ARTHUR LEVINE, Executive Director,

     ROBERT W. FRASE, Assistant Executive Director,

     MICHAEL KEPLINGER, Assistant Executive Director.

ALSO PRESENT:

       MR. FRED CROXTON,
           Representing the Library of Congress;

       MR. CHRISTOPHER A. MEYER, Staff Attorney;

       MR. JEFFREY L. SQUIRES, Staff Attorney;

       MR. DAVID PEYTON, Policy Analyst.

       MS. PATRICIA T. BARBER, Librarian Analyst

I N D E X

CHAIRMAN FULD: I call to order the Commission meeting No. 16 today and tomorrow, before we begin, I will simply mention that Mr. Fred Croxton, Director of Reader Services, Library of Congress, is representing the Library of Congress today.

Professor Nimmer.

VICE-CHAIRMAN NIMMER: Mr. Chairman, I should like to formally call attention of the Commission, the very sad news for all of us, of the passing of Abraham Kamenstein who died last Saturday.

Mr. Kamenstein was Register of Copyrights for a number of years and was one of the most influential forces in provisional copyright law and also in large measure was responsible for the creation of this Commission.

We will all look for many years to the guidance that Kammie gave to the Copyright Office, and I know we all join in mourning his loss, and in sending our condolences to his wife Babs and I would hope that the Commission will formally inform her of our grief in his passing.

CHAIRMAN FULD: This morning's testimony will be taken up by those who are talking about the sub-committee reports.

The first group to be called represent the Association of Computing Machinery. Can we have the representatives who are going to talk to take seats here please.

We welcome you here and may I ask each of you to jointly say whom you represent and what your interest is, and whatever other statement you wish to make.

MR. DAN MC CRACKEN: My name is Dan McCracken, Judge Fuld. I am a self-employed author and consultant in computer programming.

I am also Vice-President of the Association of Computer Machinery.

Susan Nycum is a lawyer in San Francisco and Chairman of the legal issues committee of the ACM.

Philip Dorn is a consultant in New York and a member of that committee.

Mrs. Nycum is going to present a position, I'm not sure if it's a majority or a plurality of the members of the committee, supporting the subcommittee recommendation.

Mr. Dorn is going to make a dissent from the committee's position, disagreeing with the subcommittee recommendation, and I am going to

speak for myself, essentially agreeing with the recommendation.

It is necessary for me to take 30 seconds and say in what sense we represent the ACM. The Association for Computing Machinery has something over 35,000 members and I'm not sure they all have opinions on this issue.

CHAIRMAN FULD: Your report has been submitted?

MR. MC CRACKEN: Not at all. Not at all. Mrs. Nycum will speak for the legal issues committee of the ACM and Mr. Dorn will speak as a member of the committee, and I will speak essentially as myself.

Our preference would be to make a brief statement and open things up for questions. But we are quite flexible on this.

CHAIRMAN FULD: I take it you have no written statement, and you don't plan to submit any?

MR. MC CRACKEN: That's correct.

If you wish, I might submit one later, if it's not too late, to discuss that.

MR. LEVINE: If you would just give us a brief background into what ACM is, who they are and what they represent.

MR. MC CRACKEN: Thank you, I should have done

that.

The Association of Computing Machinery
is the oldest and largest professional organization
in the computer field founded about 30 years ago,
35,000 plus members, who are professionals in computer
programming, design, applications and essentially all
aspects of the building and use of computers.

We publish scholarly journals in
the field and hold meetings and have local chapters.
Chapters that are generally active in professional
activities in the field.

We are the largest and oldest organiza-
tion in the field. I can be quite brief, I haven't
changed my mind on the substantive issues since
I testified before you last November, and I think
computer programming is intellectual property,
deserving of protection as other property is.

I believe a computer program is the
writing of an author. I certainly feel like an
author when I sit down to write a program as I
do quite often. I think there is little question
or little debate on what a computer source program
is. In object program form it's less obvious, but
I don't think that difference has any fundamental

variance on what you are trying to decide.

If someone hands me an object program for a computer with no clues as to what it's about and he says what does it do, that's a difficult problem.

It is not impossible, it is difficult. The analogy I think would be with a book of mathematical tables which has been copyrighted for which someone has removed all the labels. And this is handed to a mathematician and states what functions do these tables represent and that would also be difficult, but also not impossible.

I think it is also worthwhile for you to ponder if it is true that this distinction--source program and object program--is regarded as fundamental. That difference will disappear as technology proceeds.

Even today there are a couple of machines that are -- that essentially execute source programs directly without any translation, such as described in Mr. Hersey's dissent terms.

And that trend will continue. I find it very difficult to believe that this tension between source program and object programs which would be patentable, I find it hard to believe that that

would hold up. I don't see that the object program form would pass the novelty and non-obvious tests any better than source programs.

And let me just comment on one other remark of Mr. Hersey's, essentially saying that there hadn't been any testimony of abuses. I understand that the law does not anticipate problems but tries to correct old ones and the assertion was that nobody had told you that there was a problem.

Problems with theft of software. I said that there were problems. I told you a couple of stories. Specific people, although I did not name them, who have suffered financial loss by having their software ripped off and in a way that I would like to see prevented.

So, in summary, I support the recommendation of the subcommittee and I hope it will be possible to copyright computer programs.

I think in conjunction with other forms of protection which alternatively could be used would solve the problem. If it solves the problem I don't see any need for the invention of new categories.

I believe Mrs. Nycum is going to go next.

CHAIRMAN FULD: Mrs. Nycum.

MRS. NYCUM: Yes.

CHAIRMAN FULD: We'll hold off questions till possibly all of you finish your statements.

MRS. NYCUM: I am as Dan said, representing the legal issues committee of the ACM at this time and I should tell you something about the committee. I think it's composed of a cross section of membership of the ACM people who are programmers, managers, designers and the like, and also people who are concerned in the industry as lawyers.

This being one committee in particular that attracts lawyer members to the community -- the committee. And the cross section of this committee puts people who are self-employed, people who are employed by others, in the government, the private sector, and education and the like.

The legal issues committee does want to commend the Commission Subcommittee on its very thoughtful approach to the many complex issues that were presented by the whole discussion and by the very thorough analysis and discussion of

those issues.

We also want to express our feeling that those of the issues committee who do not agree with Mr. Hersey nevertheless stand in awe of his considerable talent in expressing his opinion.

Of the members of the legal issues committee who expressed an opinion on the Software Subcommittee report, a plurality supports that Subcommittee report and I should state to you that the plurality does go unequivocally. It supports the conclusions reached and the rationale for these conclusions.

Now, it is our feeling and -- reiterating what you have all said, it was not particularly useful and for purposes of brevity we do not want to -- wish to take your time of going into why it was said.

So, it might be more helpful to detail the areas where there was some disagreement amongst the members of the legal issues committee, with the Subcommittee report.

I would like to explain to you why there was this disagreement. What I thought I would do was to devote my time this morning to expressing with you the concerns of the minority of the committee,

who felt that they would not support the committee report.

I will reflect the views on two of the members who are not present here this morning, and then Mr. Dorn will share his views with you and be in a position to reply to any questions and comments you may wish to express or ask of him.

COMMISSIONER WEDGEWORTH: Ma'am, before you proceed, can you give us some indication as to the size of your committee?

MS. NYCUM: The commission -- the committee fluctuates. It's approximately a four year old committee of the ACM and it has had a high of 18 members and a low of 5 members. And as you can appreciate, people do come and go / in the industry. What we hope for is possibly 11 to 15.

Mr. Roy N. Freed is a member of the legal issues committee and Mr. Freed on August 16th, sent you a letter expressing his views to the Commission. Since you already have the benefit of his views, I am not going to reiterate them at this time, but I would like to have that letter incorporated by reference into my remarks.

CHAIRMAN FULD: It will be done.

MS. NYCUM: Thank you.

Now, as you recall, the thrust of Mr.
Freed's position is that trade/secret protection rather than
copyright protection is, in respect to computer pro-
gramming whose use is made, commercial.

Now as it happens, Mr. Freed's letter
points to a problem which faces software licensers
which is of concern to others on the legal issues
committee in addition to Mr. Freed.

I will just comment briefly as to that
concern because some of the members of the committee
fear that the problem is not resolved by the Sub-
committee report. It would be interesting to note
the response to the concern.

A software licensor frequently places
on the software a copyright notice and users notice
that the material is proprietory to him and may not
be disclosed, or disseminated or used beyond the
terms of the contract between him and the licensee.

Now certain customers of software
licensors--in particular agencies in the Federal
government--have argued that these two concepts of
protection are inimical, and if a copyright notice
is affixed to the product, publication will be

presumed and that any non-disclosure notice or

covenant within the license not to disclose, et

may safely
cetera, ·/· be ignored.

And it appears to some of the committee

that to prevent disclosure under the Subcommittee

report the licensor must deliberately decide not to

attach the copyright notice and not to register the

program but instead to maintain his software as

an unpublished work, which would forego the valuable

benefits of obtaining statutory damages and attorneys'

fees.

In the event of a proven infringement,

there is a question of the utility to the licensor

of that approach, and a feeling that that approach

would be less useful to the licensor than the rights

that would be available to him, under Mr. Hersey's

proposed computer protection act, section 4, sub-

section 1, which consists -- it gives the exclusive

right to the proprietor to reproduce software in

the whole or in substantial part including any original

method or processing body, within the software meaning.

Now, the second commentator from the

committee who had a desenting view is Mr. Landon

Miller. His corporate data processing with Northstrom,

a Seattle-based multi-state company, and Mr. Miller
is also a lawyer. I will quote his remarks as
follows:

"Counterpursuant to you, there are
three points which I feel are very important; one,
a computer program is an explanation of a process
and not the process itself; two, descriptions of a
process are protectable through copyrights, without
regard to whether they are narrative, descriptions,
or a list of instructions. Three, the underlying
idea has been continuously and probably without
exception, held under protection from a usage view-
point. I would offer the following analysis.

"There are two types of programs
which deserve protection. A type A program which is
a manifestation of new ideas, but whose output can
be obtained through a variety of different step
sequences. That is, the program processes are
not sequence dependent. Type B, which is a
manifestation of new ideas; but for this new idea,
the output desired cannot be obtained unless the
process is performed in a particular sequence.

"The problem with copyright as a
protection process is that the copyright cannot

protect the program of Type A at all because the

copyright does not protect the underlying idea and

therefore the publication of the copyright presents

the idea to the public at large for subsequent use

and largely makes any copyright protection meaningless.

"Where, at first glance, copyright might

appear to offer protection for the Type B programs,

because of illegal infringement of a copyright for

a process which is performed   in a particular

sequence, would require copying, and therefore in-

fringing, and therefore it probably does not.

"There are at least 200 or more computer

languages that I have seen mentioned, each of which

would require more than just a *step-for-step replacement* as Type B is

illegally infringed. And this would create different

manifestations of the same idea, as the result of the

differences in the language.

"In contrast to natural languages,

each computer programming language has/*imbedded* in it more

than just different grammar and symbols/*with* which the

ideas/*are* to be expressed.

"Each language is based on a different

problem defining logical framework and, as such, will

state the tactable idea differences, probably even

. with omitted additional work or combined steps.

"Some language implementations could, if patentability were possible for software, be improvements capable of independent patentability. Some languages just would not be able to implement the idea at all, because the underlying protectable idea could not be expressed adequately, as the language was created to express other ideas not within the same logic class as the new protectable idea.

"Further the steps could be disguised with additional non-necessary steps of branch logic such that detection, unless the output were also protected, it would be extremely expensive and thus impracticable.

"Without delving into all the various alternatives which would be available, I think it's safe to say that it's my viewpoint and my basic experience that copyright protection would be of little -- or of no use--for computer programs, and that any protection which might be offered would be impractical to enforce."

And that concludes my discussion.

CHAIRMAN FULD: Mr. Dorn, you are next.

I just wanted to ask you, you used the word plurality, what does that mean?

MS. NYCUM: That means there were more supporting than there were non-supporting.

CHAIRMAN FULD: Not a majority?

MS. NYCUM: That's right.

MR. MC CRACKEN: Well, not everybody voted.

MR. DORN: So I guess I'm speaking more for myself than anybody else. I have not heard that letter until just now.

Let's say I am speaking specifically for myself with a viewpoint of 20 years in the computer business, and as a person who started out to be a lawyer, but got sidetracked by our war and never went back to law school.

I somehow drifted into programming and computing, and I am not sure how either.

I have one very serious problem, which is the definition of a program. I read your definition, "fixation with a series of instructions, etc. etc." and it's a reasonably good definition. But I find it has an essential weakness in filling defined limits: where is the beginning of this thing, this sequence of instructions and where is the end?

I have always had that problem trying

to find the definition of the program and I suspect
I always will.

In fact, we were discussing it coming
here in a taxi this morning, and I think what is
missing is that a notion "programs" which I might
elect to call fragments or modules, or some other
technical word really have no particular meaning
or importance; they are not viable entities and
of themselves or through other programs, modules or
segments or whatever words you will, are around to
support this thing that you are trying to protect.

Let's say a hierarchical structure,
I might write a program A, but to make A run, I
already have to have it in that computer B, C and D,
which I may obtain from three different sources.

And that's been my problem with
defining a program for a long time, and I guess
it will continue to be.

I suggest that it's something that
has to be looked at and looked at very hard.

And one of the places where it crops
up is where you begin to compare books--creative
literary works--to programs. A book has a cover, has
a start and a finish. You can hold it in your hand

and you can walk away and you can touch it; you

can have it autographed; it is a thing. It is

complete, in and of itself.

It does not require the publication

of six other books in order to be useful.

At least I'd like to think that most

books don't require that. Perhaps there are some.

So, a program in my view has this

multiple hierarchical nature, the book is a single

definitive touchable, tangible quantity and one

constantly sees this -- one constantly sees programs

compared to books, and I find this analogy does

not hold up and I have four or five reasons why.

I would like to hand you these reasons in writing,

which you can look at. But the essence of the argument

is that a book is a very different thing than--McCracken

here, who produces more books than he does programs,

perhaps might agree, and he might not.

I am not a bonafide author, as he is. A

book is a totality; a program is a piece or a segment

in time.

A book is published. Hopefully it's

done and then when that happens, one does not have

to come up and add things to it or change it later on--

hopefully anyway.

I know very few programs which are
complete the day -- and I use the word advisedly--
published. I could use the word -- the technical
term--and say "released" to the waiting users.

Programs tend to be released and are
in a very illator form for a great many reasons,
which some people in this room undoubtedly discussed
at great length.

There has always been the theory in
the industry that we put the program out forty
per cent of what it ought to be, and we let the users
in the community tell us what's wrong, and we fix it
according to their needs, and requirements. It's
a very nice way to do business. I know a few authors
of books who can produce a book and have the readers
telling what he ought to change for the next edition,
and what he ought to add. It's as if you can compare
it to a table of contents if you wish, we put out
a long table of contents, but we only produce chapters
1, 2 and 3 and save 4, 5 and 6 for later.

The analogy -- with a book it's very
thin, when you pull it out that far. All right, I
don't want to push that too much further.

But what I do want to suggest is that the Commission seriously consider stop using the analogy of programs to books, it just doesn't work. It fails rather badly in my estimation.

I would like to move on to a separate subject, which bothered me in the Software Subcommittee report. Without having any members to back up my remarks I would contend that the vast majority of our progams are written by individuals employed by corporations. The membership figures in the ACM 35,000 plus the British Computer Society which has 25,000 some odd.

People believe -- people who are not in the computer business thing--that professional societies such as these are powerful because their members are the ones who do all the writing. My own guess would be that the professional societies represent something like 10 per cent of the people employed in the industry.

A typical large computing shop with a bank or insurance company with 500 programmers and you might find 10 or 15 society members. People do not write programs for publication in the sense of winning prizes and gaining honors. Terms which

have been used in the software subcommittee reports,
they write programs because their bosses tell them
to write programs, and they are written hopefully
for the profit of the corporation which is paying
their salary or/ the program.
                   for

None can come up with many stories
where in fact this did not occur, but that is clearly
a side issue.

Therefore, the problem is not protecting
individuals and their right to publication; it is not
the problem that most of us are faced with or -- the
problem that we are faced with is the ability to sell
a program or to lease a program to a buyer and make
sure he doesn't steal it, copy it and go on beyond
that.

I would suggest to y o u gentlemen
that we have been doing that for considerably
long periods of time; it's perfectly routine, con-
ventional contract work.

We have been writing contracts. I
buy a program and these other terms and conditions
under which I buy it. I violate the contract and
you can sue me.

And in fact, it very rarely happens,

but it has happened. I buy a program for the
purpose of doing something with it. If I cheat
or violate that contract, I deserve whatever
happens to me. And I don't see that one needs
any additional protection. I do see that we do
need protection. It is very clear to me that a
program, whatever that is, is an item an elemental
entity an element of entity, a token, something
that needs protection. It's not something that
we care to give away for free. We did for many
years, I might add. We gave away programs. We
didn't realize they had any value, and many of
them did not.

We are just beginning to learn how
to do our business. I think that one needs to
protect fundamentally during the sales process,
and that is a sales contract. It always has been,
I assume, and it always will be.

You cannot protect during the idea
stage. If I, on the airplane flying back tonight,
get a brainstorm about a new program that I would
like to produce next week, I don't know how to
protect that. It's too ephemeral.
There's nothing you can get your arms around.

During the development stage one
protects the work the same way one protects any
engineering work; the employment agreements,
trade agreements where necessary.   If I am
employed by the General Motors Company, which I
was some years ago, I sign   an agreement.

The work I did for them was theirs,
and they could do as they pleased with it, including
throw it away if they want to or sell it back to me
later on.

So it strikes me that one has these
problems and they are problems that seem to me
which demand the protection of some form and I am
not quite sure what the form is.

I'm not going to argue against
protection, it's not that kind of dissent. Pro-
tection of an idea strikes me as an almost impossible
notion.

Protection during the development
has been done for years and years using conventional
legal means. Seller protection under traditional
contract laws seems to work very nicely.

Eventually, and probably sooner than
most people believe, I think, it probably will be

possible to protect the program that I sell to
somebody or lease to them very nicely using the
computer hardware.

Now that hasn't quite happened yet,
but we are getting fairly close to certain devices.
I guess that within the next five years I will be
able to sell a program to my colleagues and have it
protected so that it would cost them thousands and
thousands of manhours and millions of dollars to
take apart.

I have -- I'm not quite there yet,
but we will be. I note that the Software Subcommittee
report, incidently, there was a remark to the effect
that they believe that trade secret protection is
very expensive to implement and removal of the trade
secret obstacle will only -- maybe they don't under-
stand how people price. It might have something
to do with the cost of the program, cost and price.
They do not always bear fixed relationship. It
will be price based on market and number of potential
customers. Trade secret costs really don't amount
to much, plus the totality of development.

Finally I remind you that publica-
tion dissemination is an academic right. The

academics have to publish to get their name out.
The commercial does not publish programs. We are
in business to sell programs or to lease programs.
And finally, I will be much happier if you would stop
using the analogy of a program and a book; I think
it fails very badly, and you could find better ones.

Now I have a formal version of these
very hasty remarks, that you may have to throw away,
file, or forget about, as you choose.

CHAIRMAN FULD: We appreciate it. Does that
conclude your direct statements? Any questions?

COMMISSIONER DIX: I'm not quite sure. You
did not really comment on Mr. Hersey's alternative
as a kind of protection. You ended up saying some
protection was needed and partial protection exists
in a contract. What's your opinion of Mr. Hersey's
alternative?

MR. DORN: Well, I really didn't come prepared.
Perhaps I should have read on the plane, coming up
this morning.

I was essentially going after the
minority report and ignoring the dissent. I have
read it. And I have problems with it too.

I have problems with almost every

scheme and plan or approach which has been dreamed
up. Perhaps it's because I look at it from the
production of programs.

Sometimes we move to the next category
and we say, how does the software house produce pro-
grams? They are producing it for the market.

You see, there are three or four different
levels of people producing programs. And each of them
has a different set of aspirations and goals.

The academic has a rather special
case. In one of the publications of the ACM we regularly
print very elegent programs, some of which may run and
some of which probably don't even run.

A full program to do some special
mathematical function can be produced and it is
printed and that particular document   is then
distributed to 50,000 people around the world.

Now what happens to the rights of
the individual in that instance?   The academic
in most cases doesn't care. He just wants to see
his name in print.

Like he invented a new way to sell
vessel functions, or to do something with the footage,
but what happens when he writes about that?

I have problems with all of these

methods. I find I have the least problems with

using conventional law that has existed for several

hundreds of years.

COMMISSIONER DIX: But this does not push you

to the point of suggesting that we forget about

copyright?

MR. DORN: Absolutely not.

COMMISSIONER DIX: You don't go that far?

MR. DORN: I believe you can find that -- a

better way. I'm not sure that copyright is really

the best way, but if that's the only way, I'm going

to have it and I am going to learn to live with it.

It's too pragmatic not to.

COMMISSIONER HERSEY: Mr. McCracken, I agree

with you that the rapid development of technology

is a matter of great concern.

And when you gave an example that it

is becoming possible for computers to execute source

programs that are direct, now one assumes this is

because the hardware has become more sophisticated

and the program-like elements have been introduced

into the hardware.

We have had material given to us from
the staff suggesting that it may be possible for
a computer mechanically to analyze programs with
an end of creating new programs or alternate programs.

But this has not yet been achieved
but may be achieved soon. And this kind of possibility
seems to me to argue for a kind of protection which is
designed to deal with a special problem with computers.

In offering a model of an alternate
kind of legislation that I appended to my remarks
I don't mean to suggest that's the only way of designing
such a new form of protection, but I wonder whether you
would agree with the basic notion expressed by Senator
Ribicoff when he introduced his bill on ripoffs on
computers, that is more appropriate to have the kind
of law which is designed around computer problems
and to shoehorn these problems, into other forms.

How do you feel about that general
idea? Without reflecting necessarily on Governor
Ribicoff's proposal either.

MR. MC CRACKEN: Well, I have accepted tutoring
from my legal friends, on how the law approaches new
technology. And it is my understanding that the
lawyers' first impulse to the legislature -- legislators--

is to see if problems can be shoehorned into existing

law.

This is with all things considered

and to create new laws, that's only done in desperation.

And naturally people's opinions differ on whether

desperation -- what their desperation point is.

There is certainly a lot of new

aspects about programs that are rather different

and novel. There were a lot of differences between

a novel and a movie, or a novel and a phonograph

record.

And a great deal of agonizing went

in, and that those things were copyrighted, the

same with piano rolls, or even the phone book.

My own view is that/ the combination

of the choice, not the combination for any program,

but the choice of different means of protection

that is available under existing law, existing law

as modified to say that programs are protectable,

we go a long way towards solving all the problems.

Now -- and that being the case, I

don't see any need for a new type of protection.

And as far as your specific recommendation, it

seems to me to rest on some technical understanding.

I am not sure it will hold up over
time. I must say I was tremendously impressed with
your background, your background statement. It
certainly captured a great deal of the essence of
what we are talking about here. There are a couple
of points where I have trouble and I'll mention
one: the essential difference between the source
program and the object program. I tried to tell
you folks in November that I did not see the point
of distinction ever in time, let alone as technology
develops.

As far as I am concerned the difference
between a source program and an object program is a
difference between the English version of your novel
and a French version.

Lawyers argue about that, obviously,
but I think you are seeing a fundamental distinction
and that is not so.   The point where I really have
a problem is your assertion that an object program
is not a description; it's the thing itself, it's
the process itself.

By the time the computer is running,
why the program is the process, and that's a little
bit metaphysical for me. You take a machine that's

sitting there doing absolutely nothing, incapable

of doing anything without a program in it, and put

in a program which has existed independently, and

readable by human beings and then the machine does

something.

Ten seconds later you put in a

different program and the machine now knows nothing

about the previous process. It is now under the

control of some other program.

And this too is human readable and

the machine now does something different altogether.

With this view in mind, it's hard for me to describe

a program as the process itself. The language is

sometimes imprecise and you quite correctly point

out that the program does so and so; people talk

about that.

Just as I might say that I flew here

from New York this morning and that's a shorthand,

which does not mean to suggest that I flap my wings.

The language is imprecise. No question

of that. But the notion of the program is the pro-

cess. I believe that is attackable and the notion

that the object program would be productable, somehow--

and I am not a lawyer, I just state my opinion--but

I cannot see how that could be possible.

COMMISSIONER HERSEY: I'd like to just make two comments on that. One that I don't believe that I have urged object programs be patented. I simply tried to say they are more like patentable objects than copyrights.

MR. MC CRACKEN: Do I not understand that you are -- your model legislation picks up on the notion it protects the idea and its object program form. And that makes it more like a patented copy?

COMMISSIONER HERSEY: It has elements of both though.

On the issue of translation, from a source to object program, I would accept that analogy and I agree with you that words are a great difficulty here--and I would be more inclined to accept a translation of a novel of mine, from English to French, if it ever activated 50 million Frenchmen to do something.

(Laughter.)

It does not work that way.

MR. MC CRACKEN: It might have activated 10 million to read your books.

(Laughter.)

COMMISSIONER HERSEY: Yes, but it seems to me
that this is the crux of the issue. To what extent
does the set of instructions handed in actually get
the work done?

MR. MC CRACKEN: The analogy is not so much
with a book.

COMMISSIONER HERSEY: But there, you see, you
talked about the ways in which a film and recordings
have been accepted for copyright.

And all of those cases the operational
object was to choose in the end the original writing
and that is not a true thing of programs.

COMMISSIONER WEDGEWORTH: I'd like to address
a question to Ms. Nycum.

Since the distribution of our Sub-
committee report we received some information
attributed to an officer one of the hardware
manufacturers, suggesting that copyright might be
irrelevant with the introduction of a sophisticated
compiler that can take any program and extract its
base rhythyms and readdress that program in another
form.

And as spokesperson for the plurality
of the ACM committee, I wanted to see if you would

react to that assertion of the potential irrelevancy of the copyright to computer software?

MS. NYCUM: Well, first of all, I should say I am trying to speak for the legal issues committee, and that's why I spoke to the legal problems presented, versus the others.

The committee did not discuss that ability of the hardware anymore than it discussed the ability of the hardware that Dorn -- Mr. Dorn-- mentioned that we should be protected by.

I was impressed with the science fiction movie because all of what we are doing is essentially the same thing. Like in science fiction that is, but your question is really -- what would our reaction be to the whole notion of copyright?

COMMISSIONER WEDGEWORTH: Well, is it a waste of time?

MS. NYCUM: I cannot comment on the feasibility of what -- even if it were true, there's always the capability of doing something that you really -- that society determines you should not do.

MR. MC CRACKEN: Could I comment on the suggestion that the person doing this translation presumably would have to get a copy of the program in order

to do the operation he described.

If that program is copyrightable or had been copyrighted under a law as the Subcommittee has recommended, how would you get a copyright in order to do that work?

Now, I understand what you're saying, is that this provides a neat method of insurance because you couldn't prove it.

COMMISSIONER WEDGEWORTH: The distinction is that under the trade secrecy you could control access to the product itself more easily than you can copyright protection.

MR. MC CRACKEN: Well, there's a court case trying to prove infringement and this process of decompiling has gone on and the court would be in a position of need to prove that the person made a copy of the copyrighted work. I think in proving that, then what he did with the computer afterwards is irrelevant.

COMMISSIONER WEDGEWORTH: Suppose he purchased a copy or lawfully rented a copy simply to analyze the program and apply his decompiler or whatever you want to call it.

And, by the way, as I read the

article, and this was not the mechanistic way of
performing an infringement, this was a device for
analyzing a program to get its ideas or its programming
ideas, and then reconstruct a program that -- not to
perform exactly the same functions, but entirely
differently express different series of commands.

The way a TV producer would take a
successful series like Kojak and analyze its compo-
nent elements and produce Bert Angelos Supercop or
what have you.

Well, I view the suggestion as more
serious than just a technical way of infringing.

MR. MC CRACKEN: Well, you indicate where the
work is copyrighted.

COMMISSIONER MILLER: The capacity to rephrase
the program gets a copy of it lawfully.

MR. MC CRACKEN: But is it lawfully obtained
with copyrights, you cannot make copies.

You cannot make copies of the pro-
posed law.

MR. LEVINE: He has a right to use a lawfully
obtained computer program.

MR. MC CRACKEN: Well, I don't know.

MR. DORN: Well, let me get into this little

discussion, you know we have a way to decompose ---
we have a way like if somebody goes to work for a
company it recreates the same program to solve the
same problem, but you can't prove it.

You cannot see any common item if
you sit there and look at the program for two days.

VICE-CHAIRMAN NIMMER: First, will you make a
distinction. You're taking the program and the
idea of the program, if you apply conventional
copyright principles it's perfectly all right to
copy the idea.

That is not regarded as infringement
and it should not be infringement, so if you look at
those two programs and you say you can't really see
that they're the same except they are the same,
meaning that they're the same idea, then presumably
that's okay.

But I have a few questions, if I may.
First of all, with respect to Mr. Dorn, you are
suggesting that the law of contracts in your view
is proving adequate. This in a sense goes back
to what we were talking about a moment ago. That
is if the law of contracts is adequate that must
mean in view there's no problem of someone coming

into possession of a computer program or of a copy
of a computer program who is not himself a party to
a contract.

In other words, the only people who
are likely to get copies of programs are those
who first agree to the contract--to sign a contract.
If that's true I follow your point. The contract is
adequate. But is that true?

MR. DORN: I think that's more true than people
believe.   I can give you four hundred cases of
things being stolen, but it's really not that easy
to steal a program and --

VICE-CHAIRMAN NIMMER: What about the buy on
the open market, but under circumstances where the
person buying does not become party to a contract.

Now you can say, well, he might not
be a party to a contract. But I am not taking the
position of actually on this question -- but it
also relates to something. I would like to hear
all of your views on that part of the Subcommittee
report, the revision of Section 117. It states on
page 19 of the Subcommittee report the proposed
revision of 117, specifically with 117-1, which
will provide that it is not an infringement to make

a copy of a program as long as that is being done

for the purpose of utilizing the program.

Do all of you agree that that is the

proper way?

MR. MC CRACKEN: I don't see how the law --

without this if the law were strictly enforced,

nobody could use the program.

VICE-CHAIRMAN NIMMER: Well, there would have

to be a license to use them.

MR. MC CRACKEN: Well, this is entirely reasonable

and necessary.

MR. DORN: I am not going to buy a program

from you and start running it until I have a copy

stashed away for safe keeping under any conditions.

That's the way we would run it and an

installation.

VICE-CHAIRMAN NIMMER: In a way it goes back

to the question, is a rightful possessor necessarily

licensee with the right to use. And the final point

I would like to put to you this relates to Commissioner

Hersey's problem, and the fundamental problem he has

raised, that we are back to this problem, where we

have a writing which does something or which communi-

cates to the machine rather than to another human

being, and I think we all can see that it has aspects

of conventional copyrightable writing, but it also

has aspects of being part of a machine.

And how do we wrestle with that? And

what route do we take?

I would just like to get your reaction

to another kind of line that might be drawn: suppose

computer programs were to be regarded as copyrightable,

only if that which they accomplish results -- itself

results--in a writing. For example, a program geared to

a data base that produces a new directory which

itself is a writing, as contrasted with a computer

program that results in giving signals to

trains as to when they should run, and when they

should stop, and so on. That result is not a

writing, I take it.

Now, I am not here to beg the question

where one could sit at the program and use it as a

writing, whatever it results in, but one still

could draw a line by saying that only those programs

which result in a secondary writing -- a derivative

work in a sense--are protectable. Can I have

your reaction to that?

MR. MC CRACKEN: That would solve some people's problems with whether the copyright law applies to programs.

But you could make protection almost meaningless because there aren't that many programs that result directly from writing and I suppose with that interpretation 20 years from now someone will make the case that the law would have decided that, well, anything a computer does eventually is what a human being does, so that's a writing too.

I don't know, but as things now stand there are not that many programs that people want to protect, the primary purpose of which is to produce written words.

COMMISSIONER MILLER: I have a question before that, but Mel under that scheme which you say a computer program that gave signals to a train to go and stop and a program that they gave instructions to a linotype machine, --

VICE-CHAIRMAN NIMMER: If a linotype machine produces the writing -- I'm not sure I would buy that.

MR. MC CRACKEN: We would shoehorn most applications into that particular set of circumstances.

COMMISSIONER MILLER: That same program that would be directed to trains would also produce a satellite program as directed to trains.

MR. DORN: That's a tough decision.

COMMISSIONER MILLER: Mr. Dorn, you indicated that most programs produce -- are produced by people for hire, employees of corporations, and the like. And you also indicated that basic protection in business is achieved by contract. Yet you think there should be copyright protection programs and I would just like to know how you would define the area of protection that copyright would provide that conventional contracting and for-hire agreements would not.

MR. DORN: First, I'm not a lawyer, and secondly, I am of dissenting opinion.

There may well be a better way as far as copyrights go. I do not have a fertile enough imagination to come up with it.

COMMISSIONER MILLER: Well, you're in good company.

(Laughter.)

MR. DORN: I seem to find I can get by with what I have to work with.

COMMISSIONER MILLER: But you seem to have the sense the copyright might do something for you.

MR. DORN: Well, I think protection is necessary. That's as far as I go.

MS. NYCUM: There is one example where there's a program--or a listing of a program in particular-- available out here on the table. If you and I were working out a contract with someone else, the copyright would be valuable.

COMMISSIONER MILLER: In a classic copy situation.

MS. NYCUM: In a classic copy situation the person is not party to a contract but comes in possession of it.

COMMISSIONER MILLER: That was going to be my next question.

MR. DORN: I might add, shouldn't, but you can't get programmers to understand contractual relationships or trade secrets or employee agree- ments. They are a very strange breed.

COMMISSIONER MILLER: Is there growth in the market for selling copy of programs as opposed to licensing the use of a program?

MR. DORN: You mean under the table?

COMMISSIONER MILLER: No, no. Regular marketing.

Like phonograph records.

MR. MC CRACKEN: Yes. You know licensing and contracts are obtained in a small way; if you have a product you want to sell for $500, you don't want to call in a lawyer to do that before you can sell it.

The thing that you're selling for $500 may have cost you millions to produce, and people can come and copy it for $10. Remember the economic reality that you have to remedy is the fact that somebody at the expense of many months' work can do something which has the effect of stealing somebody's efforts but does not violate any law, and you say, well, that means the copyright protection is meaningless.

It does not mean any such thing. What we are trying to protect is that $10 copy stuff. People going to computer club meetings and saying,"I got a tape of so and so, who wants a copy?" that happens all the time. That's a current abuse in which people are being hurt financially.

And the fact that somebody might be able to do something else which would have the

same effect but which would not break any law just
doesn't have any practical effect.

COMMISSIONER MILLER: Thus far you have all
talked in terms of replication. Is there a counter-
part need for protection to the use that goes beyond
the capacity that -- pragmatic capacity of con-
tractual relationships?

MS. NYCUM: Excuse me, I didn't understand.

COMMISSIONER MILLER: Use of a program not
replication.

MR. DORN: Well, how did you get at it?

COMMISSIONER MILLER: You licensed it and under
the terms of the contract you were not supposed to
let anyone else use it. In violation of the contract
you do let someone else use it, and I would say to
you arguably you've got a right under the contract.
Why should I give you a copyright that not only
protects you against replication, which you three
just addressed yourself to, but also to a bootleg
use of it, which I think is probably the dimension
of the copyright that John finds most offensive.

MR. DORN: Well, that could be true, but if I
had one machine and another machine sitting just
like it, I could never use a program on that machine,

if what you say is true.

MR. MC CRACKEN: Well, a copyright on John Hersey's novel does not prevent me from buying the book and loaning it to Susan or giving it Phil.

There ought to be some analogy to that in this situation. Is this what you're getting at?

COMMISSIONER MILLER: In part, but I'm really trying to see whether there is any viable justification for recognizing a copyright and a program that only protects against replication, and does not protect against use, and the law of contracts and contractual relationships, is sufficient protection to the creative route with the explorer group.

MR. MC CRACKEN: My impression is that the big abuse right now is replication. Copyright would address that -- unauthorized use -- it could become a problem later. I don't know if it is.

I believe that contracts have a proper way to deal with that. The current abuse can be dealt with by contracts.

MS. NYCUM: Also creating that abuse, it's so much cheaper to make a copy than/help somebody come in and use your copy.

VICE-CHAIRMAN NIMMER: Doesn't this get back to the 117-1 issue? You have a licensee who has a license to make a copy, he is the licensee and has the rightful possession of that copy and he is the owner of the tangible copy.

He then transfers that copy to someone else. Is that someone else a rightful possessor within the meaning of 117-1 who therefore has the right to use the machine.

I think arguably he is a rightful possessor in a copyright sense. .. Because the first person, the licensee who made the copy, owns the tangible copy, and as owner is not infringing in my view any part of the copyright act by transferring that copy to the second person under Section 109 of the new act, since he's the owner. It is not an infringement of the distribution right to transfer that copy.

Now it may be a breach of the license agreement or a breach of contract, but as far as the copyright act is concerned, the second person might very well be the rightful possessor. ... If he is under 117-1 he has the right to use that program without infringing.

MR. MC CRACKEN: Then there is no protection, on that interpretation. There is no protection, is that what you are saying?

COMMISSIONER MILLER: Speaking as one member of the Software Subcommittee, that was not what we intended -- not the intended instruction of 117-1.

COMMISSIONER WEDGEWORTH: I just felt I have one brief question.

In the Software Sub-committee's report and dissent there is a conflict with regard to the recommended term of copyright protection. Assume for the moment that software will be protected by copyright. I would like for you to comment on the possibility of having a law which treats software as any other copyrightable creation within the same term, as distinct from the law that would have a shorter term, as Mr. Hersey suggests, perhaps 10 years. Just for the record, is there any significant thing that you want to add that would help us to focus on that question?

MR. DORN: Any program that's 10 years old is more trouble to the original developers than the value he is getting back from it.

Programs do age just like people.

Programs more than 5 years old begin to cost much
more to support and maintain. In our wilder moments
we have contemplated something --a right to die bill
for programs--because there is a maintenance cost.

A program that's 15 years old is
probably meaningless. 10 years old, it's starting
to slide.

It's not the same program that you
first produced 10 years ago. 80 per cent of its
instructions may have changed, and what does that
do the copyright? Do you have to recopyright each
time that you put out more?

MR. MC CRACKEN: I agree completely. But let
me just point out that extending protection to
something that's outmoded--something like that doesn't
make sense.

The fact that my copyright on my
books is going to exist long after they are out
of print does not have any social impact.

COMMISSIONER HERSEY: What if we shortened the
term to three years?

MR. MC CRACKEN: If there was some advantage
in creating new laws for shorter terms, I don't
think people want programs copyrighted or program

copyrightability at all.

COMMISSIONER HERSEY: Well, how fast are we
talking about?

MR. MC CRACKEN: Ten years.

COMMISSIONER HERSEY: How about five years,
would that encourage dissemination?

MR. MC CRACKEN: I haven't thought about that.

CHAIRMAN FULD: Mr. Levine, do you want to
conclude this?

MR. LEVINE: I am puzzled. If publication is
the primary concern, why doesn't the present copy-
right law or the new copyright law solve the situa-
tion? If it is the concern, why have we not seen it --
I'm curious as to why we have not seen any lawsuits
brought against anyone for copyright infringements.

MR. MC CRACKEN: Well, what I suggest in my
testimony was that the threat of that has been the
deterrent long enough to satisfy the problem. It
could also be that people don't want to test that
law for fear it will turn out to be a non-applicable
one. And then there will be nothing, not even the
threat of a law.

MS. NYCUM: All of the litigation I have/and am been
aware of has been on the basis of trade secret

litigation.

CHAIRMAN FULD: Thank you Ms. Nycum and Mr. McCracken and Mr. Dorn.

The next speaker represents the Applied Data Research, Mr. Martin Goetz.

Would you describe your organization Mr. Goetz?

MR. GOETZ: Yes, good morning.

My name is Marty Goetz. I am a Senior Vice-President of Applied Data Research and Director of the Software Products Division.

My statements today are supplemental to the statements made to the commission on May 7, 1976, by Carol Cohen, who is ADR's legal counsel and a letter I wrote to the Commission on April 8, 1977. In that letter I stated that copyrights and patents for software were not in conflict with each other and that both object and source code should be subject to copyright protection.

Copies of these statements are appended to this/and were given to each member of the Commission.
statement

Today I would like to comment on the Software Subcommittee report and briefly reiterate the opinions presented in my letter of April 8th.

By way of background, I hold both
a bachelor's and master's degree in business admin-
istration from the City College of New York.

My experience with computers dates
back to 1954. I have been actively involved in the
software products business since 1965. From 1954
until the late 1960's, I designed and programmed
a wide variety of programming systems. Starting in
the mid-1960's I was responsible for directing
the technical and sales activities of ADR's soft-
ware products.

To date, ADR has installed over 6,000
software products throughout the world.

In 1968 and 1970, I received two
software patents. I would like to comment on
those patents later in my discussion.

I am currently chairman of the Software
Protection Committee of ADAPSO,* which is a computer
services and products trade association. I am a
past president of the SIA, which is the Software
Industry Association, which is a section of ADAPSO.
ADAPSO plans to comment as an association on the
CONTU report after its semi-annual meeting which
will be in San Francisco in October.

* ADAPSO is the Association for Data Processing Service Organizations

I am speaking today on behalf of ADR.

Although I did not testify in previous meetings, I have read all of the Subcommittee's published reports relating to the software or programming area and actively followed the work of the CONTU Subcommittee.

ADR completely supports the report of the CONTU Software Subcommittee. We believe it is in the best interests of companies writing programs to use the existing copyright system for protecting their computer program property.

The writing of computer programs is proliferating at an ever-increasing rate. Companies writing programs include software companies, of which there are over 1,000; users organizations, of which there are well over 500,000; individuals, which will in the near future be in the millions; and, of course, the Federal Government.

Software companies and commercial organizations, in particular, require protection for their property. They want legal protection in two specific areas:

One, protection against their competitors and, two, protection against illegal

use by users.

I would like to briefly comment on
the need for protection against competitors.

Specifically, for software product
companies:

The cost of developing, enhancing and
maintaining a program that is sold as a product can
be as little as several thousand dollars to as much
as many millions of dollars. In the case of ADR --
our cost per product for development is in the
millions. Specifically, our development costs
to date on five specific products are as follows:

The first product is AUTOFLOW. Its
development was started in 1965; our investment
to date was 3.1 million dollars; our investment
in 1976 was over $200,000.

We have three additional products,
the LIBRARIAN, ROSCOE and MetaCOBOL. Each of these
developments began in 1968, and our investments today
on each of these products are 1.4 million dollars,
1.8 million and 1.5 million. In 1976 we invested
$350,000, $200,000 and $300,000.

For a new product called LOOK, which we
began developing in 1975, in each of the last two

years we have invested $100,000 in that product.

VICE-CHAIRMAN NIMMER: What is the nature of
these products?

MR. GOETZ: Systems software products. They
are programming aids, used by other programs and
used to increase the efficiency of the computer,
as for instance in a sorting program or in
compiling. In the case of AUTOFLOW, that's a
program to analyze another program and produce a
flow chart automatically.

The LIBRARIAN is a program to maintain
other programs so that, as a user makes changes to
a program, he can record it when he made the change
and why.

So these are a class of programs
called systems software programs. These costs
are exclusive of all our selling costs, all our
service costs, all our administrative costs. They
are pure development costs.

Since 1965 we have received revenue
in excess of $40 million from these programs.

COMMISSIONER MILLER: By sale, rental or both?

MR. GOETZ: We license and lease, the only
difference being the length of time. For short periods

we call them leases.

COMMISSIONER MILLER: / What is the   average time, when

you make copies of AUTOFLOW --

MR. GOETZ: We licensed about 2,000 copies

of that program over the last 12 years.

In the case of LIBRARIAN we licensed

3500. I have about five more minutes and I'll be

glad to answer any questions.

In general, we do not provide the

source code to our users, although many software

companies do. Specifically companies that develop

applications and generally provide the

source code to the user.

But although we do not provide source

code, we very much need to protect that source code.

If there was no protection for that code ADR would

be in a vulnerable position if these programs

were used by our competitors or by an individual

to start a new business and compete with ADR. ADR

currently copyrights these source programs.

We also copyright the machine or

object code and provide this code to users around

the world. We believe that the combination of user

agreements plus copyrighting of object code adequately

protects the object code. It is for this reason
that we support the CONTU Software Subcommittee's
report.

We have used the copyright system
since 1965 and want to continue to use it. However,
we do believe that additional specific language
would be desirable in the copyright statutes that
address copyright violations.

Specifically, we would like to see
additions to the copyright statutes that make it a
violation when a copy of a   computer program is
made or used.

If you gentlemen would like, at some
point I could show you a program that has been
copyrighted since 1970, ... Here is another program
that we copyrighted in 1977.

I would like to now make some comments
about ADR's involvement and interest in patent pro-
tection in the computer industry and about the use
of patents in the computer industry.

ADR filed three amicus curiae briefs when
the software patentability question was argued in the
Federal Courts.   The
first was in Prater-Wei -- Court of Customs and Patent

Appeals Case, 1968. The second was in Benson/
Tabbot Supreme Court Case, 1972, the third was
in the Johnston case, Supreme Court, 1974.

ADR itself has received two software
patents, and has a hardware/software patent currently
pending.

I am the named inventor for the two
software patents: one was for a machine process
for sorting data, and the second was for a machine
process for analyzing a source program and then
displaying two-dimensional flow charts.

I believe there are very valid and
logical reasons why the patentability issue is
separate from the copyright issue.

Let me start by stating what I believe
are non-controversial statements and which are facts
or axioms. They are as follows:

One, machine processes are patentable.
There is no question about that. A machine process
can be embodied with computer hardware circuits,
and it's also a fact that you can embody a machine
process -- excuse me, that a machine process can be
disclosed by circuit diagrams or logic charts.

A machine process can be embodied in

a computer program.

Lastly, it is a fact that a patentable machine process can be reduced to practice without a hardware circuit or machine being built or a program ever being written.

The patent question in a nutshell is this; is there a patent violation when a patentable machine process is logically incorporated or is a part of a computer program and said computer program is executed or processed by a computer?

It is possible to get a patent without a program ever having existed. The patent violation question deals with the machine process being infringed upon when, and if, it is incorporated into the design of a program.

In the case of the ADR sort patent, 'a program was never written. There was a proper disclosure which provided gross logic charts that showed the machine process. There was never any economic motivation to write a program or develop that sorting process into a software product. The advantage of that sorting technique was useful only for second generation tape drives and, for the most part, had very limited value.

ADR's patent for automatically drawing two-dimensional flowcharts, and on the other hand, was implemented on five different computer systems, both second and third generation computer systems. The patent or invention is incorporated into all of ADR's AUTOFLOW software products.

Since 1965, the product has been licensed to 2,000 users and has grossed almost $20 million.

ADR has never tried to patent a computer program. However, we believe our machine process patent would be infringed if a computer program or a piece of hardware incorporated the sorting process or the two-dimensional flowcharting process. To date, we are not aware of any patent violations.

On the question as to copyrighting object code, I would like to briefly reiterate what I stated in my letter to the Commission, on April 8th.

Essentially we believe that the object code is simply a machine translation, or conversion, of the source code. The source code is a more convenient way to write programs, but

programs are written in object as well as source,

and if one can be protected by copyrights, so

should the other.

Finally, I would also like to state

that it is ADR's experience, and I believe universally

true, that many source programs have very long life

spans. As an example, programs written in high

level and machine-independent languages, i.e.,

COBOL and FORTRAN, will be marketed by software

companies, or developed by users, and have lives of

anywhere from 5 to 30 years or more.

In my opinion, therefore, the Commission

should not recommend reducing the term of copyright

protection for programs from the current maximum

stated in the copyright statutes -- 50 years after

the death of the author.

I would like to make one other

comment, and that is that source programs in particular

are written so that they can be read by humans. There

are many books written about making programs readable,

by other human beings, and that is because other

people must maintain and change these programs, So

programs are developed for people to read as well as

for machines to execute.

And, in that regard, I am very much in agreement with Mr. Hersey when he talks about programs, being executed, and that I think is the core of the patentability question.

Is there a violation of somebody else's machine process that may be embodied in that computer program.

I thank you very much, and I'll be glad to answer any questions.

COMMISSIONER HERSEY: Mr.Goetz, you said you copyright source programs. Have you published those programs?

MR. GOETZ: We on occasion give them to our users and ask them to republish them, and make copies for our users, but that is done on a very limited basis, if you are asking whether we register in the Copyright Office, no. We do not register our programs.

COMMISSIONER HERSEY: That is the thrust of my question. Because the presumed purpose of copyright is to make publication of it available to the public.

And it seems that your motive is denied public access to the program. Is there not

a basic conflict between the notions of patent
and copyright?

MR. GOETZ: Well, it was always my understanding
that one of the purposes of the copyright is to
protect against unauthorized copying, and in that
respect we use the copyrighting system not for
dissemination of information. It is also my under-
standing that there is no need to register programs
unless there is a copyright violation. Most commercial
organizations do not register their programs unless
there is a violation. As I have also often
stated, there may be a patentable machine process
embodied in perhaps one of 10,000 programs. But
most programs are very costly to develop and they
are very easy to reproduce. Just like a film
needs protection, just as a book needs protection,
just as a phonograph recording needs protection
against unauthorized copying and dissemination--not
so much from the people that you have a contract
with--but / protection from those people that somehow get
an unauthorized copy and then would want to disseminate
it to other people. But yes, copyrighting programs
. would not help dissemination very much.

COMMISSIONER HERSEY: On the issue of the

interchangability of source and object programs,

the letter to which you refer you give instances.

Many programs written in sources languages, such as BASIC, COBOL,

and others, may be executed directly by the computer. In the case

of BASIC an interpretive program is used. In the case of COBOL,

the machine architecture permits the COBOL program to be executed

directly or almost directly.

Both the phrases here indicate that

there are program operations within the hardware

which adapts the source program to an object program

and the machine does it.

MR. GOETZ: No, not necessarily. Let me try

to answer your question in two parts.

There are machines that have micro-

codes or have interpretive software programs that

take a basic program, take each instruction as they

are written, decode it. The first instruction might

be, "Add location A to location B" and it would directly

interpret the statement or whatever the basic

language is. And it will not, in effect, go to

object code, although it may / translate internally, within

the bare bones of the computer. But there is never

any object code being produced.

The machine is capable of analyzing the language at its source level. And the counterpart of that is that in first generation computers, in the very small computers today, as in microcomputers where there is a very small amount of memory, programs were written in object code. UNIVAC I and RCA 501 programs would be written in object code and were maintained in object code. They were written that way because other languages were not generally available. Because the machine architecture was simple enough to permit people to write in that type of code.

And it's just the last number of years that it became more convenient--but there are still very, very small computers, micro-computers where one is writing in low-level language.

I don't really see the distinction between low-level and high-level. When you write in a high-level language you do that with the convenience of a translator that breaks it down to object machine level.

COMMISSIONER HERSEY: Aren't those micro-computers which are used in all sorts of household things, aren't those examples of cases in which

program becomes fixed in a permanent form in the
memory of the device and becomes in effect part
of the device itself?

MR. GOETZ: That is true.

Those computers cannot be changed.
They are not available to be changed.

CHAIRMAN FULD: Any more questions? Commissioner
Miller.

COMMISSIONER MILLER: In the years you have
had experience with these products, have you honored
any instance of duplication?

MR. GOETZ: We have honored very few. Some
instances in small companies like service bureaus

but it's very very rare.

COMMISSIONER HERSEY: What form of law did you
proceed on?

MR. GOETZ: We only asked them to stop
but we never proscecuted any. We are dealing, further-
more, with large organizations that have contracts.
In the market, we sell to IBM 360, 370 users. For
the most part they would not take a program and use
it if they were not going to buy it. That does not
mean if the law said they had the right to copy it

and use it, they probably would.   But most companies

respect the fact that it is not their property.

But we believe that the copyright

system gives us that extra added protection, and

we still might sue them just on violation of property

law.

But here the law is not very clear.

They are not out to steal our property; the property
          still
is/there.   They have made a copy.   We believe the

copyright law is most akin to the type of law we

want to use for the protection of the copying of

these programs.

COMMISSIONER MILLER: Is that opinion -- does

it go for the firm or wired-in programs you mentioned

a minute or two ago?

MR. GOETZ: Well, number one, they are less easy

to get to and they are generally logically incorpora-

ted into that piece of hardware.   So that I do not

see something like a competitor copying a piece of

logic like the microcode by itself.   We are dealing

with a commercial market where these programs are

sold to large companies that have general purpose

computers.   It is for that market that we want

to protect the copying of these programs which are

distributed around the world.

We do not sell the hardware and
the software together. In /those cases where the
hardware and software go together, the software
is an integral part of the hardware. I am not
certain whether those companies protect just the
software.

COMMISSIONER MILLER: In theory, we're supposed
to be dealing with both situations.

MR. GOETZ: Well.

COMMISSIONER MILLER: Is it conceivable we
can protect your kind of program?

MR. GOETZ: I believe it's possible.

My remarks today are directed to those
general purpose   computers.

COMMISSIONER DIX: Mr. Goetz, if the copyright
law were to require that you deposit in a public
library program a copy of your program before you
could take advantage of the protection offered by
the copyright law, do you think you'd be inclined
to use it?

Or do you think that would add so
much risk that you'd rather not go with it?

MR. GOETZ: We definitely would register it.

It just becomes an inconvenience for software

companies, and I don't believe they should be filed.

If one operates under the current copyright

system, or takes the view which some lawyers do,

one should only register when there is a

violation. And that period can extend up to 20

years, from the creation   up to the time he

must file.

And I must say, you're only creating

an inconvenience for software companies without

creating any benefits.

COMMISSIONER DIX: One might argue it would

stimulate your very competitors if they had an

opportunity to study your programs and go back

and think on it and see how they could improve them

in a different way.

MR. GOETZ: I believe it's not so much the

studying as much as the   code itself. / There are many

companies that have commercial packages which are

applications of software packages where there is

a tremendous amount of code, such as   payroll

packages or accounts receivable, that have hundreds

of thousands of instructions. It's not a question

of analyzing, it's a question of taking all that

massive source code and using it. Now, one can

protect those massive amounts of code the way a

mailorder house protects itself.

If some/one took these hundreds of

thousands of instructions and used it, one could

detect then very easily that they   took

it. It would be more work to try to copy the design

exactly. The work is not in the design but in the

massive/number of instructions that have all been debugged

and are usable, and have proven to be usable.

It is for that type of protection, with someone

not studying it, but taking it and using it and

reselling it.   I am talking now not because I

represent ADR today--but I'm talking about many

companies that provide their source code to users.

Now some companies use trade secret

and others use copyright. IBM distributes all

their source codes when they distribute their soft-

ware products. They do use the copyright system.

So it is not so much the looking at the source

code, as the using and the taking of it.

MR. LEVINE: We have had witnesses who told us

that they were very concerned that this would be

of major -- that it would be made available to the

public and for that reason they prefer trade secret rather than copyright and the deposit under the new law will be required, for published works.

If, in fact, your programs are considered published copyrights, the statute, Section 407, would require that you deposit two copies with the Library of Congress, unless there is some exemption granted.

MR. GOETZ: You mean the 1976 revisions?

MR. LEVINE: The new act, yes.

MR. GOETZ: Well, I'm sorry.

CHAIRMAN FULD: Well, we're not sorry for your appearance. Thank you very much Mr. Goetz.

Ladies and gentlemen, at this time I believe we will recess for lunch and come back here at 2:15.

All right, so we'll all reconvene at 2:15.

               (Whereupon a recess was taken for lunch, and the meeting reconvened at the hour of 2:15 o'clock P.M.)

CHAIRMAN FULD: We will hear now from the representatives of the Computer and Business Equipment Manufacturers Association.

Gentlemen, will you please describe your organization, and also yourselves, or identify yourselves.

MR. CULLEN: Good afternoon Mr. Chairman and members of the commission.

I am Frank H. Cullen, manager of Patent Headquarters, of Burroughs Corporation. I am representing CBEMA, and am a member and past chairman of its Proprietary Rights Committee.

With me here today is Mr. Joseph Genovese, Vice-President and patent counsel of Control Data Corporation, also a member of our proprietary rights committee.

CBEMA is an industry association representing the major manufacturers of business equipment of all sorts, included are all of the major hardware manufacturers of computing equipment.

As you will recall, CBEMA has expressed previously to the Congress and to this Commission its view that suitably amending the copyright statute provides the optimal approach

to affording practical protection to computer programs and data bases.

I will divide my remarks to address the Subcommittee reports in that order.

Software Subcommittee report; we particularly agree with the following Software Subcommittee conclusions:

One, that computer programs should be treated as "works of authorship" and that in fact computer programs were so treated by Congress as stated in House Report 94-1476 for the new Copyright Act, Public Law 94-553.

Two, that some formal protection is needed to encourage the creation and distribution of computer programs in a competitive market.

Three, that copyright is the preferred form of protection; that programs are not different from other works now subject to protection; that with adequate copyright protection, computer programs do not require a new form of protection; that the use of some of the other mechanisms for securing property rights in computer programs impairs broad access to or use of information to a far greater extent than does copyright; that

most proposals for a new form of protection are in most respects indistinguishable from copyrights; and that amendments to the new law are necessary to clarify the new scope of copyrights in computer programs.

The Subcommittee concluded that in the absence of Section 117 of the new copyright law, the loading or inputting of a program into a computer would constitute the preparation of a copy, which in view of Section 106-1 of the new law would constitute an infringement if unauthorized.

We agree with this conclusion. We also submit an observation with respect to that statement in that the new law probably provides for such infringement even with the present Section 117, because Section 117 carries forth the old law in effect December 31, 1977; it is likely that such inputting is an infringement under the old law. However, we prefer the more positive Subcommittee approach.

A second observation concerns whether the loading or inputting of a program into a computer would always constitute a preparation of a copy under the new law.

The reason for this concern is the definition for "fixation" in the new act; fixation being a requirement for a copy. The new act, in Section 101, contains this definition: "A work is 'fixed' in a tangible medium of expression when its embodiment in a copy ... by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reporduced, or otherwise communicated for a period of more than transitory duration ...."

The aforementioned House Report 94-1476, in its "Sectional Analysis and Discussion" of Section 101, Definitions, under the subtitle of "Fixation in Tangible Form" includes this sentence: "On the other hand, the definition of 'fixation' would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on screen, shown electronically on a television or other cathode ray tube, or captured momentarily in the 'memory' of a computer."

Accordingly, it is suggest that the first sentence of the definition of "a work is fixed" be rewritten as follows:

"A work is 'fixed' in a tangible

medium of expression when its embodiment

in a copy or phonorecord, by or under

authority of the author, is non-evanescent

and sufficiently permanent or stable to

permit it to be perceived, reproduced, or

otherwise communicated, and for such

perception, reproduction or communication

to be repeated..."

While storage in the memory of a

computer might exist for only a few microseconds,

this is not a short time in computer technology;

moreover, such storage is not normally self-decaying,

and during that time and before it is erased, it

may be repeatedly perceived, reproduced, etc.

The Subcommittee has suggested a

definition for computer program. We suggest the

following substitute version:

"A 'computer program' is a literary

work that consists of a series of statements

or instructions in a form and order intended

to be directly or indirectly utilized in

a computer to cause it to achieve a certain

result through the performance of a series of

steps of a process."

We inserted "indirectly" because
we have in mind that many programs are written in
source code, using a high-level language, which
code needs to be compiled into the object code
which directly causes a computer to achieve a certain
result.

It should also be recognized that
such object code may not need to be generated as
a collection of statements or instructions; rather
it could theoretically be generated and used
internally only as needed, or in fact may never
exist, the computer instead interpreting each
source code instruction. The other amendments par-
ticularly define and limit what a computer program
is.

We also note that there is no defi-
nition for a "computer" in the new Copyright Act.
Accordingly, we propose the following:

"A 'computer' is an automatic
machine or device capable of storing,
processing, searching, retrieving, or
transferring information."

Thus, we propose that "a computer"
be defined generally in the terminology of existing

Section 117 of the new Copyright Act. We have
added searching to reflect data base processing
capability.

A computer program may be a deriva-
tive work of a flow chart, and either may be a
derivative work of a literary work such as a
narrative description.

A flow chart may be defined as a
graphical representation for the definition, analysis,
or solution of a problem, in which symbols are used
to represent operations, data flow, equipment,
etc.

It may be deemed to be a higher level
of abstraction of the program itself. Normally,
a flow chart is created, and then the program
written to it. However, with the benefit of
another program, an existing program may be flow
charted.

The writing of a new program is very much
easier on account of having the benefit of the flow
chart of the earlier program. We recognize that
the Subcommittee may have acknowledged that such
unauthorized activity might be copyright infringement
when it stated: "...no attempt need be made in the

definition (of a computer program) to address

explicitly the program/algorithm version of the

idea/expression distinction. This distinction,

which has caused great uncertainty in the world

of copyright, is not, of course, unimportant."

Then, of course, the Subcommittee

goes on to recognize that per Section 102(b) of

the new Act, copyright protection will not extend

to any idea, procedure, process, system, method

of operation, principle, or discovery.

We understand the Subcommittee

position to be that where the line will be drawn

between the two extremes and will be determined by

the usual application of the law of copyright by

courts.

The Subcommittee has proposed a new

Section 117 to replace the existing Section 117 of

the new Copyright Act. In general, the provisions

of the new sections of 117 are quite satisfactory.

We urge, however, that some amendments be considered.

We propose a new Section 117 as

follows:

"Section 117: Limitation on

Exclusive Rights: Computer Programs

Notwithstanding the provisions of
Section 106, it is not an infringement for
the rightful possessor of a lawfully made
copy of a computer program to make or authorize
the making of additional copies of that computer
program provided that any particular additional
copy is created:

(1) As an essential step in the
rightful possessor's utilization of the
computer program with a single computer, and
that it is used in no other manner, or

(2) For purposes of adapting or
modifying the computer program to achieve
the copy for the rightful possessor's utiliza-
tion of the computer program, or

(3) For the rightful possessor's
archival purposes only and that all archival
copies are destroyed in the event that
continued possession of the lawfully made
copy of the computer program should cease
to be rightful.

MR. LEVINE: Excuse me, Mr. Cullen, may I
momentarily interrupt for the purposes of the
Commissioners -- while they may seem like Learned

Hand's predictions coming true -- the language in

the handout given us by IIA carries the language

-- we don't have your statement, it carries the

amendments suggested pretty much now.

Excuse me.

COMMISSIONER MILLER: Where can I get the old

one?

MR. CULLEN: That's not included in this

same ticket.

[Continuing:] "Copies prepared in accordance with

the provisions of this section may be leased sold

or otherwise transferred by such rightful possessors

only as part of the regular rightful sale or other

transfer of ownership of all rights in the program

in the rightful possession of such person, or

by the rightful rental, lease, or lending of such

copies.

"In addition, notwithstanding the

provisions of Section 109(a) of this act, it

shall be a violation of the computer program

copyright owner's exclusive rights to have in

one's possession such copies outside of the pro-

visions of this section or an express license from

the owner."

That's the end of the suggested Section 117. The limitation to a "single computer" in new subparagraph 1, is deemed important to protect the copyright owner's rights. A lawfully acquired copy of a program can be very easily and rapidly read into an additional computer for use, modification or preparation of additional copies, and this restrictive language is needed.

New subparagraph 2, in Section 117, is proposed because users of data processing equipment frequently must adapt a computer program to their particular requirements. This is one reason why source code is generally made available to a customer.

While a customer might endeavor to adapt or modify object code, the making of changes to object code requires an unusually high level of skill and machine knowledge.

Thus, the adaptation or modification of programs are effected through alteration of the source code which normally also contains helpful comments.

The altered source code is then recompiled to generate new object code. Customers

need the right to make that copy in order to
have the most effective use of marketed programs.

The other suggested amendments are
obvious.

We are not sure we understand or
agree with the Subcommittee's interpretation of
Section 301. "Preemption with respect to other
laws" of the new Copyright Act.

For one, we see nothing in the
new Copyright Act that states a trade secret may
obtain only until copyright publication and may
not obtain thereafter. We agree with the Sub-
committee that there should be no trade secret
after the work has been published without restriction
on use or disclosure.

However, we wonder whether the
trade secret need necessarily be lost after it
has been published in a copyright sense; that is,
in an investive sense; as sufficient distribution
to enable registration of a "published" work, but
not such public distribution as would defeat the
author's right to protect by copyright ("Divestive
Publication").

Since the Subcommittee apparently believes

that a trade secret could exist in the work

as unpublished, and even though federal copy-

right will apply to the unpublished work, it

would seem that legislation is necessary if the

work, offered to the public, under a restriction

against disclosure is to be protectable under

only one of the copyright and trade secret

protection mechanisms. It is our view that

it is now protectable under both.

We urge that both copyright and

trade secret be available as protection mechanisms.

We would predict, however, that if copyright

protection turns out to be adequate, many program

proprietors will not use the trade secret arrange-

ment and will rely instead on the copyright pro-

tection.

Consequently, the cost of programs

to the public will be reduced!

One reason for urging the Subcommittee

not to curtail the possibility of trade secret pro-

tection being available to a U.S. program proprietor,

is that it is not assured that there will be adequate

copyright protection available in all other countries.

Accordingly, if the work is placed

in the public domain in this country, and no copyright protection exists in another country, it would seem that there might be a free and ready appropriation in that country of the creative efforts of the U. S. program proprietor.

We agree with the Subcommittee that the term of copyright protection for computer programs should be the same as for other works. We believe that the lives of computer programs may be much longer than generally realized.

The Subcommittee made several suggestions concerning notice. We generally find them acceptable. We particularly agree that programs which are sold, leased or transported should bear plain notice of copyright as should such devices as: 1) reels upon which magnetic tape is wound and 2) semiconductor chips in which programs are stored.

With regard to deposit requirement, the regulations should accommodate in some fashion a program proprietor who chooses to market his program under a nondisclosure agreement, one solution to such system might be the temporary or a delayed deposit system.

We also support specifically the
Subcommittee proposal that descriptions rather
than complete copies be required of updated or
amended versions.

Finally, we offer two "postscript"
comments:

One, we do not see why the inclusion
of software in the scope of copyright depreciates
the nation's cultural heritage. In fact, we argue
just the opposite in that an increase in importance
of copyright should inure also to the benefit of the
creators of the nation's cultural heritage.

If copyright is better understood
by more people, respect for the value and impor-
tance of copyrighted cultural articles should
also be enhanced.

Two, we do not encourage the
generation of another or new law to protect soft-
ware. As the Subcommittee has observed, such
laws for the most part, are a variation of copy-
right law, usually with some trade secret provisions.

In view of the public policy of
favoring protection mechanisms enabling disclosure
over mechanisms requiring trade secrecy, and

considering that the complexity in the law should
be minimized, we urge the simple adaptation of
the copyright law to the new technologies.

Turning now to the Data Base Sub-
committee report. We agree with the Data Base Sub-
committee that public policy dictates that society
should encourage development and dissemination of
useful stores of information.

We also agree that it is desirable
to encourage publication and registration of data
bases periodically in order to create a public
record, develop and facilitate utilization, so
long as the business vitality of the data base is
not affected.

We agree that unauthorized storage
of a data base should be protected by Section 106
as being an unauthorized reproduction. We also
agree that the making of a copy of the data base
should be the exclusive right of a data base author
or his successor in title. We agree that fair use
should rarely, if ever, obtain.

We agree that the making of a data
base accessible to others should need authoriza-
tion.

We agree that implied in the transfer
of a data base, absent an understanding to the
contrary, should be an authorization to store.
Providing for the negotiation for limitations on
use is desirable, but we think it would be desirable
to clarify this in the statute. Likewise desirable
is the ability to limit a transferee from authorizing
a third party to store a copy.

We urge that updates to data bases
need only be periodically registered. We are not
sure that we agree that the copyright proprietor
should have no position with respect to extracted
individual data items.

The discovery that there is no infor-
mation of a given type in the data base, too, could
be a very valuable piece of information.

We agree that a private display by
user should not be deemed a publication. Our comments
concerning the legal effect of leases with restric-
tions prohibiting disclosure or transfer is the
same as mentioned herein before for software.

Finally, we concur with the deletion
of Section 117 of the new copyright act.

You will recall that on April 30, 1976

CBEMA wrote to CONTU requesting consideration of its following recommendations that S.22 be amended expressly to provide:

One, explicit protection of computer programs and data bases.

Two, rights with respect to inputting data bases and computer programs into a computer.

Three, limiting preemption effects, including effects of the presence of copyright notice on unpublished materials and/or compliance with deposit requirements.

Four, increasing criminal penalties for data base and computer program copyright infringement.

Five, manufacturing rights in country of writing.

Six, clarification of function of deposit copies.

Seven, title in deposit copies.

Eight, freeing government contractors from possible criminal sanctions.

Nine, stricture against systematic or concerted copying or photocopying.

We observe that either the CONTU

Subcommittee and/or Congress has favorably addressed items 1, 2 and 9. Item 3 has been at least partially addressed by the Subcommittees in their recognition that there can be a trade secret, at least until the matter is published.

Items 4, 6, 7 and 8 have not been commented on by CONTU and the Congress. Item 5 has been resolved by Congress, effective July 1, 1982. CONTU and Congress have commented on Item 9 -- systematic or concerted copying or photocopying. We believe the unresolved items still merit attention.

We thank CONTU for the attention it has given to our suggestions, and we offer to be of any further assistance that we can.

CHAIRMAN FULD: Any questions?

COMMISSIONER LACY: Can you repeat for us the remaining unresolved ones. I lost track.

Which are the ones that you identified as still requiring this attention?

MR. CULLEN: Four is criminal penalties relating to data base and copyright and computer program copyright.

Six is clarification of the function

of deposit copies. The problem there arises as to whether or not there is no requirement in the statute that the copyright deposits be retained by the copyright office for use in a court case or anything of that nature.

Seven is the title of deposit copies as to whether the -- particularly in the case of an expensive piece of equipment or something of that nature--whether that passes to the government or whether the government is a trustee for the purpose of evidence.

And the eighth one was freeing government contractors from criminal sanctions where they are required by the terms of the contract to -- to comply.

CHAIRMAN FULD: Any questions?

VICE-CHAIRMAN NIMMER: You stated at the beginning of your remarks that in your view under the existing 1909 Act as continued by Section 117 -- if I understood you correctly--you said that your view under the old law/input is that an act of infringement, is that correct?

MR. CULLEN: That's correct.

VICE-CHAIRMAN NIMMER: Can you enlarge on that?

What right does that violate?

MR. CULLEN: Because taking a machine-readable copy of a program and putting it through the machine is a "readable device" and inserting it into the memory of a computer constitutes a "copying." That is our position.

VICE-CHAIRMAN NIMMER: About the doctrine that you don't have a copy unless it's perceptible to the naked eye or without the aid of a machine....

MR. CULLEN: Following your earlier suggestion this morning that the same machine can then print out a copy.

VICE-CHAIRMAN NIMMER: Then the print-out would be an infringement. But you said the input also is.

MR. CULLEN: Because you can't copy it out unless you copy it in there in the first place.

If you can copy it out then it has to be in there.

COMMISSIONER MILLER: You would like to see the perpetuation of trade secret along with copyright protection to what point?

MR. CULLEN: You mean how much distribution or how much publication is necessary?

COMMISSIONER MILLER: You use such words as unrestrictive publication.

MR. CULLEN: Yes -- going to another suggestion for a moment, I'm sure you remember the suggested language of one of the provisions of the WIPO model that contained a restriction against disclosure as part of the suggested model law. That it would be unlawful for a possessor of a copy that was copyrighted to disclose the contents of that copy.

COMMISSIONER MILLER: Under your proposal, if I produce a program which is copyrighted by virtue of -- let us hypothesize express provisions of a revised 117 and the appropriate definitional change, I can have a copyrighted program and I can license it with a clause in the license requiring non-disclosure.

And I could continue to do that for all time to any licensee and claim at that point protection under the law of trade secret and protection under the law of copyright.

MR. CULLEN: All right.

COMMISSIONER MILLER: I am just trying to understand the position.

MR. CULLEN: The important thing from the standpoint of the software owner is to limit the use not only/the copying but the use of his
as to
program or any substantial part of it,

past the ligitimate licensing or rival transferring.   The mechanism that we have tried to suggest and the amendments to Section 117 would go that far.

COMMISSIONER MILLER: The effect of that of course would be the opposite of preemption of trade secret.

MR. CULLEN: I'm not sure I understand the question.

COMMISSIONER MILLER: In other words, if a copyright proprietor could do that, in effect that copyright proprietor would have the benefit both of the copyright law and the trade secret law.

And all the arguments for preempting trade secret law set out in the Subcommittee's report would be circumvented.

There will be no deposit of the program unless the Register by some fluke demanded deposits of a program he or she presumably did not

even know existed.

You would go merrily along licensing that under a non-disclosure law and the public would never see it; the public would never have access to it in terms of future generations of program development, and ironically, I suppose, when the life plus 50 years ran out you could continue to perpetuate protection of it under the non-disclosure clauses.

MR. CULLEN: I think that you could make a strong proposition that you can do that under the 1976 Act by considering the work as an unpublished work and requiring anybody who takes it under lease to not disclose it.

Then it is not published. It does not need to be registered. It does not need to be registered until it is published, isn't that so?

COMMISSIONER MILLER: Under the new statute don't you have to make a deposit?

VICE-CHAIRMAN NIMMER: Only on publication. You have the right to register without publication but not an obligation.

Also registration is required as an infringement action, but you don't have to show the publication.

MR. CULLEN: In other words the mechanism to do what you're saying is already there?

VICE-CHAIRMAN NIMMER: But although I would agree and, somewhat contrary to what I think is in the report,   the trade secret law is not preempted under the new act by virtue of the copyright law.

It seems to me that what occurs, as Arthur describes, is this kind of broad dissemination, but each time subject to an agreement not to disclose,   That I would think, under law of trade secrets itself, would mean there was no longer a trade secret.

It's made that generally known, even though it may not be preempted by the copyright law, it's not a trade secret any longer.

COMMISSIONER MILLER: One of the things that the Software Sub/committee tried to avoid was subjecting the whole business to the vagaries of 50 state laws of the trade secret.

VICE-CHAIRMAN NIMMER: Let me modify what I said about preemption, It seems to me if you get to the point where there isn't any real secret left, but only a contractual obligation. by a lot

of people, not to tell other people, at <u>that</u> point then I would argue there is a preemption, because you no longer have a different kind of class of option and the copyright--in essence you have a copyright cause of action. But it may still have the label trade secret on it.

If the only real prohibition is re-production and that's the only element in the cause of action or count, rather than the element of secrecy surrounding it, then I think you have a right to copyright under the applicable section.

I think you have the right to do that.

COMMISSIONER HERSEY: What is this unrestricted publication you're talking about? Where does it fall?

MR. CULLEN: I think it falls into several classes, in all honesty. I think there are certain types of programs that have a shorter economic life, or they may have some continuing use, and the likelihood in those cases/that the length of the restriction would be very short.

Some system software, and things of that nature, are more permanent, more longer-lasting types of computer programming, and would probably

exist particularly where they are hardware-dependent, if you know what I mean.

More integrated to the architecture of a single manufacturing machine, or something of that sort. It could last for quite a while.

We already have examples of programs of that type that are in excess of 12 years old. Still, new machines are being manufactured and delivered. So I would expect in that range.

COMMISSIONER HERSEY: What I think I hear you saying is that you would want to rely on trade secrecy until the program is no longer of commercial value.

At that point it would be publication protected by copyright. Is that a short way of saying what you have been saying?

MR. CULLEN: I don't find that objectionable. I don't know whether I am representing the concensus of the CBEMA committee.

COMMISSIONER HERSEY: It's not objectionable, but it flies very much in the face of what the Subcommittee has proposed.

COMMISSIONER LACY: In speaking of the degree of dissemination that might be possible without

having sought trade secret protection a few minutes ago, you spoke of programs being leased with respective agreements. Would you make a distinction between lease and sale there?

MR. CULLEN: Yes.

COMMISSIONER LACY: There would be a widespread sale even though the sale was covered by restrictive contracts?

MR. CULLEN: No, in that sense, if the lease or the agreement under which the program is provided had the same restrictive terms, I don't see the difference between a lease and a sale.

COMMISSIONER LACY: Would you feel able to prohibit an outright purchaser from reselling his copy?

MR. CULLEN: You would re -- reselling the same copy?

COMMISSIONER LACY: Yes.

MR. CULLEN: No. I think not in that case.

COMMISSIONER LACY: So in that case you've lost all your protection of secrecy to information in which we might be able to prevent somebody else from using it.

Or using the material and any secret

information.

I would like to go back to one of
the questions that I think I'd like to have clarified:
the function of the deposit at the Library of
Congress.

Would the Library of Congress,
through its ownership of the deposit copy, have
acquired the right to make certain uses of that
copy?

The question comes up naturally
with the copies of motion pictures   deposited at
the Library of Congress. Does the Library have the
right to exhibit those pictures?

Clearly it doesn't. But that I gather
would be -- what you are really talking about is
whether the library had an obligation to maintain
the copies as potential evidence.

MR. CULLEN: It goes to both points.

I would say that the deposit of a
computer program in the Library of Congress does
not give you, the Library of Congress, or the entire
United States Government a license to use the
computer program.

COMMISSIONER LACY: But you would feel there

should be a requirement on the Library of Congress
to maintain the deposit copy as potential evidence,
or for whatever responsibility they might have to
deposit to other media, or should they be under more
stringent requirements?

MR. CULLEN: One way or another, if the Courts
are going to rely on the deposit in the Library of
Congress as being evidence of what was deposited,
then it seems to me that the Library should be
required to keep those.

COMMISSIONER LACY: You mean to suggest it
would be necessary to deposit the whole program?

MR. CULLEN: No, but it should be clarified.

VICE-CHAIRMAN NIMMER: I thought you were
taking the contrary decision:

You didn't want to deposit, but
that interfered with the trade secret course of
action. Wouldn't it interfere with the right to
claim a trade secret to have it on public file?

MR. CULLEN: If the position of the Library
with respect to those deposit copies is not made
clear then it could -- absolutely. If unlimited
access were given to the deposit copies or --
then that would violate the trade secret aspects

of the depositor.

VICE-CHAIRMAN NIMMER: How about limited
access, such as to anyone who says, I want to make
sure that my program doesn't infringe that program,
so let me look at that program. Is that all right?

MR. CULLEN: Well, I don't know what the basis
for access is now. And all I am saying is that this
is one of the things that we considered and what
was recommended:

that the copyright statute make
clear what the function and access to deposit
copies would be.

VICE-CHAIRMAN NIMMER: Well, I'd like to figure
out what you are recommending it should be.

MR. CULLEN: I guess that I am not absolutely
sure of what CBEMA recommended originally.

MR. GENOVESE: I have a recollection that CBEMA
wrote a letter recommending copyright on this in
the hearings in connection with the rules that
there is one alternative to depositing an actual
copy...

That the Copyright Office prepare a form
asking for all the information it would need, in-
cluding the human readable literary description

of what the program does and what it is.

And that this paper be accepted in
lieu of the computer program to satisfy deposit
requirements. That was a recommendation that
CBEMA made.

It's kind of tough to talk for
CBEMA because I am Control Data and he is Burroughs.

COMMISSIONER MILLER: And you can't talk to
each other.

MR. GENOVESE: Oh, we talk to each other.

(Laughter.)

There there are another dozen companies
that are looking over our shoulders.

COMMISSIONER LACY: Well, legislation was needed
to free contractors from stringent requirements.
I am not clear why criminal acts in this connection
should be different from any other criminal acts.
Why should one be exempt?

MR. CULLEN: I would like to answer that
particular inquiry later.

COMMISSIONER LACY: All right.

COMMISSIONER HERSEY: Just one more question
to get back then to the preemption question: how
can you say how CBEMA would feel about the use of

copyright as a protection?

Is the preemption to the extent recommended by the Software Subcommittee or to be enacted into law?

MR. CULLEN: Are you referring to Section 117 as the Subcommittee's report?

COMMISSIONER HERSEY: The preemption is what I am referring to. The preemption suggestion.

To simplify the question, if trade secrecy were preempted and denied, would you still want copyright?

MR. CULLEN: Yes.

MR. LEVINE: If I could ask you a question Mr. Cullen. In your capacity with Burroughs my understanding is that Burroughs does in fact register some of their computer programs now.

MR. CULLEN: Yes, we do.

As a matter of policy we register everything that is offered for license as a program product. And we register and deposit.

MR. LEVINE: And what's your trade secret vis-a-vis other programs?

MR. CULLEN: Each of the licenses contains an agreement not to disclose the copyrighted program.

MR. LEVINE: And you now deposit the full program with the Copyright Office?

MR. CULLEN: Yes. Except with some minor exceptions. There are certain programs which, in the form that they are deposited, a computer print-out or a print-out of the text of the program is so voluminous that well -- a stack of papers six or eight feet high would -- containing 66 lines per page--would be required to print out the entire contents. In that case we have made an arrangement with the Register to deposit the first ten or fifteen pages of each major portion of the program that appears. So they send in an abstract, if you will, a couple of inches thick plus the entire machine-readable form of that code as deposited.

MR. LEVINE: So you take the position based under the 1909 provision that they cannot be registered unless they were published under the 1909 --

MR. CULLEN: We take the position that the lease or license or use of the actual copy of the program leaves the control of the proprietor and goes into the hands of the licensee, so that

he has the opportunity to convey it to someone else.

He has in that sense sufficient publication to invest the right to register.

COMMISSERION LACY: Would you believe that to be true under the 1976 Act when you have got your copyright without publication?

If you consider the leasing--even restricted leasing--under a non-disclosure--or would you prudently consider it wasn't publication?

MR. CULLEN: Well, again, we come back to this point of what is going to happen to the copies. The deposit copies; whose are they, and who is responsible for them, and so on.

And I would have to see the regulations. I know what the regulations are now, for the deposits that have been made, and I have been advising my company on the basis of the present uses. I might change my recommendation.

COMMISSIONER MILLER: I take it that it's your opinion that your covering practice under the 1909 Act, which includes the deposit, does not vitiate any claim you might have to trade secret

protection.

MR. CULLEN: Yes. Under the present practices
of the Copyright Office.

MR. LEVINE: As to those deposit copies, if
anyone wished to come in and look at those deposit
copies in the Copyright Office, as long as they
were still maintained by the Copyright Office,
they could do so.

Anyone could come in and read that.
This is a serious problem for people who write
tests.

With the Princeton SAT and other tests
they are concerned that students are going
to come in and read the examinations. Anyone
can.

MR. CULLEN: Right. And as most people will
tell you, that's not a great bother to a computer
software house.

As long as the person who comes
in to inspect is not allowed to copy. There's
an absolute mass of material, and it's so great
that it requires some automatic memory to memorize
it.

MR. LEVINE: But they are under no restriction

as to disclosing anything that they read in that,
once they come into the Copyright Office. There's
no restriction on that, saying,   Burroughs has
a terrific program that does this and such.

MR. GENOVESE: This might turn on a factual
determination. When the computer program as deposited
in the Copyright Office is there, and assuming that
the Copyright Office will permit anyone to take a
look at it, what do you have. You have a reel
of tape and you have a stack of paper with a bunch
of curlicues on it. And the fact to be determined is,
is this really publication?

Is this sufficient to avoid the
trade secrecy laws in the 50 states or 49 of them?
or even 12 of them?

I defer to Vice-Chairman Nimmer.

VICE-CHAIRMAN NIMMER: I don't know more than
46 of the 49.

(Laughter.)

I don't know what that is.

MR. GENOVESE: Well, you have an object in a
form that is very difficult to be perceived by a
human being. It can be perceived by a machine
and this 1976 Act covers that.

But from a trade secrecy standpoint, publication vis-a-vis trade secrecy may be a different story.

VICE-CHAIRMAN NIMMER: We don't need publication of all copyrights, but the purpose of using trade secrecy--any general public dissemination. But what constitutes public dissemination in the circumstances you suggest--whether that constitutes it or not.

MR. GENOVESE: I believe Frank was alluding to something like that earlier.

CHAIRMAN FULD: Thank you, gentlemen, very much.

We will go to the fourth formal presentation of the Information Industry Association.

Tell us again your organization and the function of your organization.

MR. PAUL ZURKOWSKI: Gentlemen and members of the commission, it is our pleasure again to be here.

My name as you know is Paul Zurkowski, and I'm president of the Information Industry Association, a trade association of commercial firms engaged in creating marketing information products and services.

Joining me today in this statement
are Joseph Taphorn, chairman of our Software
Committee and, in lieu of Ira Herenstein, who is
unable to be with us today, we have George Baron,
Secretary of Standard and Poors. He is the legal
advisor to our subcommittee.

We feel that we would like to call
your attention to a just-released report from the
Department of Commerce which, interestingly enough,
is based on 1967 Census of Business figures
showing that information activities account for
46 per cent of the nation's gross national product.

There are 9 volumes substantiating
that proposition, some of which I question, but
it is based on '67 figures and it does suggest the
scope of the significance of the work of the
commission that it was engaged in addressing.

The Information Industry Association's
Proprietory Rights Committee has approached/in that
the matter
context, and not simply from the standpoint of
the proprietors.

Our comments are really hitting just
Sub
the highlights of it -- the two committee reports.

Limitations on time do not permit us to comment

paragraph by paragraph, as interesting as such an
exercise would be.

And our general conclusion is that
the committees -- our Committee's concensus is
that the reports of the two Subcommittees make
very substantial contributions to understanding
in this field and they serve to illuminate the
realities of emerging trade practices in this
field, including their social and economic
significance, and impact.

I cannot stress that "emerging trade
practice" illumination process too much. As often
has been said, legislation is a perspective, and
it confirms in law what has grown in practice.

And I think the most significant
contribution of the Subcommittee report is this
delineation over   time of the trade practices.

It is not by coincidence or separate
authorship of the old Grecian Urn that we have
different languages. We met with the CBEMA
Subcommittee last week to try to hammer out the
differences in the language that we have come to
independently.   It was as a result of the meeting
last Friday that the language you see conforms

fairly precisely to the agreed-upon terms of the Association Committees.

We will first comment on the Data Base Subcommittee report. Ira Herenstein was expected to deliver this to you because of his day-to-day contacts with the subject matter, but in his absence I will cover the ground.

The Data Base Subcommittee report states the copyright status of data base approximately as we perceive it: there are data bases or machine-readable compilations entitled to copyright protection?

Do they, by virtue of their form, deserve treatment in the law in more explicit and detailed fashion than any other compilations?

There are some other problems with regard to the conversion to an in-print product of a machine-readable data base that I think will sort themselves out as time goes by,

after we solve some of these initial problems. I must note also that we believe the principal of a compilation being entitled to copyright protection. By virtue of its form, it calls for treatment in law in a more explicit and detailed

fashion.   It also applies to microfilm compilations
‑‑ we are not going to go into that today, but we
did want to make that point.

We have approached the matter on the
basis of suggesting specific legislative language.

You can follow the text of the
statement as well as the restatement that the Act,
with the recommended changes, placed in the text of
the new law.

First,
we would recommend the definition of "data base"
be included in Section 101, as is stated there.

"A data base is a literary work
expressing the form and principally intended for
use in conjunction with a computer, and consisting
of a compilation data selected and organized by
an author so as to facilitate access to and used
in the individual item." This definition in turn
calls for a definition of the word "computer", and
we offer   precisely the same definition that
CBEMA offered, including the word "searching".

We add the word "searching" for this
reason.   We suggest that one of the exclusive
rights of a data base owner should be the right

to search the data base.

We then offer definition of the word "search" for the data base as follows: "A search of the data base is the examination or analysis of the data base by a computer for a particular type of information, whether or not the examination by analysis results in any display, copy or performance of all or part of the data base and whether or not the inquirer received it in the same place or a separate place, or at the same time or at different times."

A footnote suggests that a more comprehensive approach might be to say "use of the data base," but the committee settled on "search".

Recommendation four is to add an exclusive right in the case of data bases to perform a search of the copyrighted work. The search of the data base is the primary intended purpose and use of the data base. This is similar to the "performance" or "for display" of certain other works and this is true since the user may often derive the intended value of the data base without copying any part of it.

An example is a patent examiner or

a patent searcher who discovers from a search of
the patent data base that no patents exist in his
area of interest.

It produces no print-out
but it does convey the value. A second example
is a merge-and-purge of the directory of the data
base to compare files of names and addresses, which
may verify the whole new file without "taking"
anything out of the directory data base.

In short, we are concerned with the
use made of the data base; what that use results in
is an ancillary question.

Recommendation five, we concur in the
Subcommittee's recommendation that Section 117 be
deleted, and we agree with the logic that inputting
the data base into a computer is the making of a
copy and under 106-1 is an infringement and un-
authorized.

We believe this is a result even
with 117 as the law, since any inputting is going
to be an infringement under the old law.

All of which leads us to the dis-
cussion of the limitation on exclusive rights
and data bases. We have started in our consideration

of the recommendation of the Software Subcommittee
under the new Section 117; replace the existing
section of the copyright act.

As you can see, it is essentially the
same language that CBEMA offered earlier, and it
did result in that reading on Friday.

It may be appropriate, incidently,
to merge these two recommendations since it was,
and since a computer program is a data base.

I don't think I need to read that
section, you have heard it before. The only addi-
tional comment I might make on it is that the new
Section 117-2 permits a rightful possessor to
modify the data base to suit its computer and its
software.

The experience in the business of
-- the data base distributors--that is SDC and
Lockheed--is that they each have a different
search software. When a data base is put
up on one or both of those systems, the data
base is modified and in a different fashion to
suit the search software. I have heard data
base producers suggest to me that the result is
really different from the inprint product.

So there is a need for the data
base distributor or "broker" as the Data Base Sub-
committee report calls him. He would be able to
modify that.

We can go on to recommendation seven,
as you have already noted, the implications of the
definition of "publication" should be addressed in
more detail.

If an individual markets a data
base or a software subject to trade secret restric-
tions against the disclosure, what effect does this
have on his copyright rights? Are they preserved?

It seems to me one line of cases
starts with Merchantile and it suggests that they
are not and its data generally versus digital
computer, which preserves the trade secret.

"Publication" is making the work available to
at least a sector of the public,   regardless
of terms and conditions under which it is offered,
and there is room for discussion there.

The Subcommittee equates the transfer
of a data base to a broker to distribution copies --
to distribute copies or make available the displays
of the data base to the transfer for the purpose of

distribution for public performance and display.

Clearly,/whether that is the case
^(there is a question as to)

since the broker of the data base is generally

limited as to how much/the data base can be released.
^(of)

The broker makes it available for search with his

computer and does not redistribute the entire data

base.

It is different. A further point

with regard to publication and notice is that if

you require, as the Data Base Subcommittee report

suggests would be desirable, that a copyright notice

be printed or displayed with the first extract

or abstract of the print-out from the data base,

the burden of the computer time

used to display that copyright notice in each case

will fall on the user and will, over time, increase

his costs.

I -- just a question as to whether

that is the best way that notice can be conveyed.

We have one other area -- several

other areas, one of which is in recommendation 8

under reversions.

The purpose of highlighting the

problems that may arise--we are all concerned with

the copyright status of the data bases from the
reversion provisions law--are maybe a sleeper.
We recommend consideration be given to the defining
of data bases as"works of hire", unless agreed in
writing otherwise.

The two provisions suggest that the
author of the data base is the person, whether
natural or otherwise, who selected and organized
the data or caused them to be selected and organized
either as the work for hire or as a contribution
to such data base, unless the party expressly
agrees with the written instrument signed by him
and the work will not be considered as work made
for hire. Except as specifically provided above,
the author of the data base is the owner of any
copyright in the world.

There is another way of dealing with
that, in terms of Section 203-B-1 of the Act, and
could you comment on that, Joe?

MR. TAPHORN: Section 2-- I left my book back
there.

Section 203-B-1 in effect deals with
the right of reversion with respect to a derivitive
work.

And it may say as to the derivative
work if the author terminates after 35 years or
whenever he chooses to, that the right in a derivitive
work continues.

Let's say a movie has been made, so
whoever owns the derivative work continues to do
something with that movie.

It is in the nature of a data base
that it probably would be updated even thereafter.
35 years and one day, there would be a new addition
to the data base.

The question/is, does the wording of
203-B-1 say that you can't update that data base
on that next day? Because you would be creating
a new derivative work which would certainly have,
or will presumably have, some relationship with
that original one data base 35 years ago.

So the suggestion is that perhaps
after the word "copyrighted" in the last line of
203-B-1   to add the phrase "other
than data bases."

VICE-CHAIRMAN NIMMER: I don't understand in
principal why is this a special problem? Differing
in other copyrights. Whether there should be

termination or not.

MR. TAPHORN: Because this is in the nature of
some data base, to be continuously updated, and I
would suggest   the advantage of a computer
data base is that it can keep the latest information
in it. So now here have gone 35 years in which a company
say Standard and Poor's, diligently every day or every
week or whatever the period of update is relating
to the nature of the information, has kept it on a
current basis.

Comes the week after the termination
the data base will cease to be of value unless it
can be kept current, and it will be in Standard and
Poor's interest to be able to update, and not run
afoul of the section.

VICE-CHAIRMAN NIMMER: I guess the termination
would apply. But if it doesn't, why is that different
from, say, an author who is writing a series of
sequels, or a publisher?

And then he terminates, which means
that the publisher cannot then add a new sequence.
He can't build. That is hard on the publisher, but
that is the fundamental policy of termination pro-
vision, and I don't see why it's any different in

this area.

MR. TAPHORN: Well, -- oh, go ahead Joe, --
I'm sorry, George.

MR. BARON: I think the difference lies in
the two different works.

One where the termination should be
retained and there's no data base, where authors
and composers and people, as you say, are writing a
sequel. But on the other hand, with regard to the
data base, that really is not the case. The data
base is primarily a commercial type of product.
Not just for publication to be read; it's for use.
It's a compilation. The sequels that you are
talking about are not in themselves compilations.
Sure, they come into a work that finally becomes
a collective work, but that is different from the
data base that is being authorized and put together
paid for by the people who are collecting the infor-
mation and then disseminating it as information.

I think the two products are completely
different and that is why we reversed the work-for-
hire provision where, with regard to a composer and
an author, the work is --

VICE-CHAIRMAN NIMMER: Don't you gentlemen

have a work-for-hire provision by and large in the
collection of data bases?

Why do you have to reverse them?

MR. BARON: We don't know the true answer is
this. Insofar as my clients, Standard and Poor's
Corporation is doing the preparation and authorizing of
the work and is paying for it, sure, it's for hire.

Their employees do it, but in many
instances, what we will find is we have also outside
firms doing it. Consulting firms. They are not
true employees and under the definition--I don't
remember the sections and the work for hire definition,
and it's in the second paragraph--if it's not by an
employee or if it's by an outside firm, you have got
to expressly eliminate the idea. What we have done
here is because we are dealing with the different
kind of animal, namely a data base, we have reversed
that and said it is a work for hire unless you
stipulate and agree to the contrary.

COMMISSIONER LACY: I wonder about the burden
on the employers in the 1976 Act, with people who
are commissioned for hire and so on, or authors
who are commissioned to create the work, where they
might not be.

Do you really think that employers

can -- are so impoverished that they can't protect

themselves without shifting the burden on the

person employed?

MR. BARON: Well, of course, there are all kinds

of classes of persons in that consultant capacity.

In that outside capacity. Standard and Poors has

used firms that are bigger than Standard and Poors.

Standard and Poors have used the firms also that

consist of two people.

COMMISSIONER LACY: Well, I think that any

creative writer would be able to protect his rights.

MR. TAPHORN: May I try another one. Standard

and Poors, now has someone come to them with a

proposed data base?

Perhaps they started a simple collec-

tion. Standard and Poors will not now know for sure

whether 35 years from now whether that -- in terms

of that data base will be terminated.

And why are they especially interested,

because they will make a substantial investment in

making that data base current, between now and then.

Will you be doing the small person

a favor by causing Standard and Poors to be nervous

about dealing with him? This suggestion is that

Standard and Poors be made confident in dealing with

this person and willing to buy this. This suggestion

is for the benefit of/who creates it. *the person*

COMMISSIONER LACY: Standard and Poors knows

enough about the copyright act to know about termina-

tion act. And the work-for-hire law.

I think a declaration of interest --

Standard and Poors is a wholly owned subsidiary of

a corporation of which I am a Vice-President --

COMMISSIONER MILLER: The argument I heard a

few minutes ago is that the data base is a commercial

product as distinguished from the work of literature

or music.

And therefore 203 should not apply

to the data base. It seems to me that's a rather

untenable position.

I put together a unique dictionary

-- a dictionary of words relating to law, for

secretaries. And I give it to McGraw and Gill

to publish. 35 years later I assume I can terminate

under 203, and reclaim my dictionary and put out

a new edition. And in those 35 years let us

suppose that McGraw and Gill has published 15

editions or let's make it 35 editions, each year

it's gotten a new edition with the words of the

year added. Something like Nimmer's pocket parts.

Each year now what is the conceivable difference

between that and my coming to Standard and Poors

or anybody else and saying, hey, I've got a great

data base for you to put out, let's call it a

dictionary.

And lo and behold, in a computerized

environment this dictionary of legal words is put

off in machine-readable form and accessible to a

terminal. And I cannot see any reason why I, 35

years later, under the policy under 203, should not

be able to terminate and reclaim.

MR. ZURKOWSKI: There are situations, I think,

where all traces of your original contribution

would not be there at all.

COMMISSIONER MILLER: Well, that may make an

interesting lawsuit about whether I have got any-

thing to terminate.

But I don't see where that changes

the philosophy.

MR. ZURKOWSKI: But I think our point in raising

this was not to urge on you with absolute certainty

any particular resolution of the problem, but to

at least get you to focus on it and think about

the pros and cons.

COMMISSIONER MILLER: You have obviously

achieved that magnificently.

(Laughter.)

COMMISSIONER HERSEY: Before we leave, what is

an unnatural person, and I have never asked this

previously.

MR. BARON: A corporation.

COMMISSIONER MILLER: It's not a bastard John.

(Laughter.)

COMMISSIONER HERSEY: It does point up   the

kind of euphemism you get involved with/in this kind of

thing, and I'd like to come back to it. when we

reach a review program.

COMMISSIONER LACY: Mr. Chairman, I have one

other question. It is suggested here that the

data base be defined as "a compilation prepared

for machine use."

The Subcommittee's thinking perhaps was

not very expressly set forth., While its base cannot

properly be applied to any collection of data

put together by an author, and whatever medium it

was expressed, then the dictionary would be a data base as would a machine-readable form of the same thing.

It seems to me there are many advantages in considering data bases as copyrighted assemblages of data which may or may not be copyrighted and there is much to be gained from that. As/having a sub-class of data base or machine-readable data base, I wonder if there's a serious feeling on whether "data base" should just be confined to machine-readable form.

MR. ZURKOWSKI: I think that we did explore that question and we have concluded that a data base should be called a "data base" when it is in a form intrinsically intended for use --

COMMISSIONER LACY: But you wouldn't call it a "data base" if it was in some other form.

MR. ZURKOWSKI: It would be a compilation. And it is because it has other dimensions as a machine-readable entity that you get into the spelling out of what the rights are that pertain.

COMMISSIONER LACY: Well, if we had a definition for the term "machine-readable data base," you could do all of the things that you wanted to do while

still preserving the more generic term for any

compilation of data characteristics of machine-

readable data base acceptable material.

MR. ZURKOWSKI: We did consider that and I

don't think we entirely eliminated it for -- but

for simplicity of presentation here, we did try

to find a data base in terms of something for use

in a computer.

It does get us -- that question does

get us into what happens when you take an imprint

data base and subject it to optical character

capabilities -- optical character readings, and

you read it into a computer, and what are the

rights involved in that situation.

I don't think our committee really

addressed that in detail, we did consider it.

MR. BARON: What happened was this. We were

trying to keep a differentiation between a hard

copy and what you call "machine readable data base."

If you had a hard copy which you

then scanned and put into a machine and put on a

magnetic tape or disc then there were two completely

different uses.

The one where you have just the

dictionary where you are going to read with your
eyes, that's easy.

But the one where you had this mass
of information resident on a disc or tape or machine
or any other way, then the only real use you make
of that is selective search.

Sure, you do the same thing with
the dictionary. I understand that. And you do
it with your eyes.

But there is a difference of practicality.
When you do it with the computer you are doing it in
minutes or seconds. When you are doing it with the
hard copy you are sitting there laboriously doing
it.

One man can do a job with a computer
set up the kind I am talking about, say in a day,
my figures may not be right, but I am making a
point. On the other hand, you would need 200
people to do the same thing with the sets of
dictionaries.

COMMISSIONER LACY: I would not want to
pursue this too far. We are talking about easy
clarity of draftsmanship.-- Whether there is a
need for a term which would describe the kind of

compilation we are talking about, as opposed to
other terms, which could describe it when it's in
a different form.

The same work, of course, could be
identical. When you are talking about a dictionary
composed by a computer or existing in another form.

I have a feeling we may find it
interesting to have an inclusive term or form.

COMMISSIONER WEDGEWORTH: This is related to
the question of searching, where we are taking a
more selective term as distinguished from the more
generic term of use. And I don't know that it really
assists you as much as it may appear to, because
it's simply -- it promotes the advocacy of other
interests that might come in to say, well, a selection
is quite different from a search, because I know
exactly what I want, and I do not have to search
for it, I can go directly to it.

And therefore, there ought to be a
separate provision that will inhibit that use of
a data base as distinct from the search of a data
base.

COMMISSIONER LACY: Yes. I do believe that a
search would create a bit of a problem. We cannot

single out a single use.

COMMISSIONER MILLER: Yes, I am having a little difficulty at least for the moment. I think there is a question of substance here. I understand that if you take a manual compilation, it will take you a lot of time to pore through it -- to work through it as compared with making the same search of a machine-readable data base, of that manual data base. With that manual compilation, and there is that difference.

And your proposal calls for creating a separate search right. A right to reflect the economic value of reducing a 10 minute search to a 30 second search or a 15 minute search to a one second search.

The time frame is relative but could you say the -- exactly the same thing about that manual compilation? That because there is this manual compilation known as a dictionary, or more appropriately in this case the encyclopedia. By using it or by searching I can do in 15 minutes or one hour what might take me three days to do without it in another type of manual search -- namely going to the card catalog and reading

15 books on the Battle of Hastings, and all that.

So what's the difference if you are creating a search right, why shouldn't there be a search right for any data base whether it be a manual data base, on the theory that that base saves you the time and energy from creating your own data base to get the research healed, and the machine-readable data base.

MR. ZURKOWSKI: I think it goes to the heart of the function of copyright vis-a-vis the machine-readable data base.

In the absence of a search right you aren't going to get even that kind of publication. You are going to get a very close to the vest handling of the data base materials under very strict control.

COMMISSIONER MILLER: Now is that another way of saying, Paul, that in the case of a manual data base like the Encyclopaedia Britannica you are going to get more hard copy sales than you are of the machine readable data base to fill that gap you need a search right?

MR. ZURKOWSKI: Well --

COMMISSIONER MILLER: Britannica gets its -- it gets it by some copies, and you're saying it

doesn't need a search right.

I think that's true and I think that the search right becomes the basis for the contractual provisions by which the data base can be leased to brokers and distributed through telephone terminal -- telephone-connected terminals -- to achieve widespread access to data bases. Why isn't that a contract matter just as the Britannica's marketing scheme fixes a price, presumably based on its perception of number of copies and production costs equalling a need for a certain amount of revenue?

MR. ZURKOWSKI: It's tied to the replication costs involved when you have a structured and formated data base in machine-readable form. The entire thing can be -- the whole economic structure, it seems to me, underlying getting into that format depends on being able to have a statutory base or contractual terms covering the search.

When you have an encyclopedia sold there exists no capability of replication of that magnitude.

COMMISSIONER MILLER: I am hearing practical difference, I am not hearing philosophical difference.

MR. ZURKOWSKI: I believe that's our point.
That's the reason that we would single out "data
base" for definition and we would single out as
"machine readable", the equivalent of a machine-
readable data base, as compared to other compilations,
is that there are some practical differences between
those requiring that kind of treatment.   I think
that is consistant with the recommendations of the
Data Base Committee.

MR. BARON: If I may disagree, I think there is
a real difference in substance, to put it in a cliche.
The difference is between walking and going by
automobile or airplane.

The Encyclopaedia Britannica could
just as well take the hard copy manual, put it in
machine-readable form for the purpose of selectivity,
and that will or won't impair the revenue of
Encyclopaedia Britannica without regard to where
they are getting their revenue from. That is either
the hard copy or the machine-readable data base
which they have created.

I think if you are saying "search" is
search, okay, that may be true. But there is a
difference in the product that is being searched.

I think in one instance you are
talking about -- I'll say it this way: in one
instance you are talking about 1909 and if you
disregard "machine readable" as differentiated
from "hard copy," you are disregarding, in my opinion,
all of the progress that has been made in coordination
with regard to creation, selection, organization and
use of information.

You just aren't going to get the
same thing out of a hard copy encyclopedia that you
are going to be able to get out of the use of the
machine-readable base, particularly with regard
to such things as manipulation of the data that's --

COMMISSIONER MILLER: Well, how about research
which -- it's a more powerful research tool, which
to me is like saying the Encyclopaedia Britannica
is a more powerful research tool than Grimm's Fairy
Tales. It's really a -- it's how wide your vision
is. You say to the thing, well, can we take an
airplane? I could say, maybe it's the difference
between crawling, walking and taking an airplane.

You see, I am not ignoring the fact
that the technology is gee whiz, Buck Rogers, and
all that sort of stuff, but what I am asking is

whether there should be a philosophical distinction

drawn inbedded in legislation and if so, what is

the policy, the justification for that.

I thought I understood, Paul.

MR. ZURKOWSKI: Are you saying you are recommending

a philosophical distinction? We are recommending a

practical one.

COMMISSIONER MILLER: I would have to say you

are drawing a philosophical distinction between

books and mag tapes with regard to the right of

search, based on a practical difference.

And, I have to be --

MR. ZURKOWSKI: I don't think it's a philosophical

difference. I think it's a practical --

COMMISSIONER MILLER: Let's not get into that

hassle. We have got a semantic battle going and

it's not being very productive.

COMMISSIONER LACY: Mr. Chairman, it seems

to me that, in fact, we are not talking about

two positions where one is farther along than the

other in a continuous line of development, where the

machine-readable data base is more efficient.

I think there is a real difference

in kind, not just in degree. If you look as to

what is the copyrightable edition of data, or

jumble of raw material under data base, in the

ordinary printed data base, they compile as

characteristically done and there are two things

done., You select from this jumble certain ones

that are relative to the criteria you may have

and then you arrange them in a given order.

You may put them in alphabetical

order so that one may more easily find what one

wants.

Now, if all that machinery of the

data base did was those two things, select and

arrange, if it was just so constitued that it could

be done faster, I would be inclined to say we are

talking about more efficient degree with the same

thing.

And I might agree with that would

be possible --- the only capacity of a machine

data base would be to print out the in -- the

hard copy and do it in alphabetical order.

What is put into it, but character-

istically the requirement of machine-readable

data base is to do something else than just select

from a jumble of material and put it in the given

order. This is associated with software which is an integral part of the total product, which enables various kinds of selections to be made which are beyond the power of anybody who does not have access to the software.

So the machine readable data base is not really just a body distinguished from/printed data base just because it exists as magnetic plans on a tape, rather than patterns on a piece of paper.

It's associated with it. The software enables the search to be made, and I would suggest there is a real difference in kind, not in really more efficient, but kind.

COMMISSIONER MILLER: The difference is based on the different product. You're talking about the software. Maybe it's the software.

COMMISSIONER LACY: Our report refers to a machine data base -- machine-readable data base and software in a number of cases.

MR. BARON: If I may, the machine data is without the software.

COMMISSIONER LACY: Well, what the compiler has added is this capacity to research, so in a sense the compiler at the request of the user does a search and form.

He is not just laying the dictionary out for you to search, he is using his software to do the search, so I think there is a distinction.

MR. TAPHORN: Well, it seems to me that a data base for computers, if you took the ordinary dictionary and just put that in on that magnetic tape and then the computer, that would not have been what I considered to be a data base.

But to put that effectively into a computer, I would organize and structure it, and you know, line up the data and decide how long the words were, eliminate certain words, whatever it is that goes into structuring and organizing and formating it for effective computers.

After you have done that, it seems to me you have something specially tailored for a computer.

COMMISSIONER MILLER: You mean the software?

MR. TAPHORN: I was just proceeding outside of the software.

COMMISSIONER MILLER: Well, Dan's discussion was talking about an integrated unit which I would have characterized as "data base plus operational software."

MR. TAPHORN: I would say there are also situations where that's fully true. But I would believe that there are programs existing now and that I might sit down and structure a data base against the main existing format, so I put together some data and I put it in the computer and I would use your program. So it seems to me it would be improper to say that the package is mine, and your program.

MR. ZURKOWSKI: One of those things might be a photocomposition software that would be derived from a camera and copy, and another--this is commonly the case -- and another on that data base is picked out of that file, and applied against the search software.

And the data base itself is structured and formated then. And then the whole business is tied in.

The operative software produces different things, is separate, from that.

COMMISSIONER MILLER: And which are you talking about?

MR. ZURKOWSKI: All of them.

COMMISSIONER MILLER: Joe is not talking about

the same thing Dan was talking about. Neither of

you was talking about anything I was talking

about.

CHAIRMAN FULD: I think we have the picture

in the right perspective. We'll take all this into

consideration.

MR. ZURKOWSKI: We do have a couple of other

comments about --

CHAIRMAN FULD: Well, on the software, since

we had such a detailed statement from CBEMA, I

suggest you make a resume of it.

MR. ZURKOWSKI: Continuing then on data bases

the fact remains--there remains this question of

their use. We concur in the Subcommittee's observa-

tion that fair use would have -- we do see an

infringing pattern already in the field, whereby

the users, some users, by use of very broad questions

elicit in-depth response from data bases, responses

which are then bled off into a mini-computer at a

high rate of speed thus diminishing the computer

time-related charges and payments to the data base

owner, leading to a subsequent search on an in-house

mini-computer, to narrow and refine the product of

the search.

This is sometimes done when a quarterly up-date of the data base comes in and people -- there is a standing order for information in a certain area. They will search the file with a quarterly up-date and never go back to that file, just keeping that quarterly up-date stored in their own mini-computer.

This computer generated an in-depth set of responses and then is subject to resale by the using company. Clearly such is not intended to be covered by fair use concepts under data base copyright concepts of such, by definition selected fragments, regardless of their relationship with the entirety of the data base.

This should not be considered fair use, since they are used in indirect impact for potential market of the value of the copyrighted work.

Under preemption we feel this area needs clarification. We discussed above our agreement with the Subcommittee that trade secrets can be obtained in the work, along with Federal copyrights, along with the works not "published" in the trade secret sense. In publishing for example,

in addition to the author's copyright, publishers
should have protection for the -- for publishing
the work. While these two values may not often be
separated in the process of creating a data base,
the unfair competition bases for protecting the
values added by the publisher should be retained,
as a right by the publisher and its equivalent in
the creation and distribution of data bases.

Finally then, with regard to Section
301, in order to make clear compliance with the
positive requirements, with the act, and not destroy
any contract or trade secret rights, the depositor
might have--we made a suggestion there--we also
have urged in the past that a copy of the data
base be deposited with the Library of Congress, be
subjected with limitations on its use by the Library.
And the use of data base, it should be limited just
as use of deposit of motion pictures is limited:
no public performance of the deposit copies of
motion pictures is permitted. And in the same
vein, no search of the data base should be permitted
for the same reason,

that it will adversely affect the
economics of the data base published.

In a similar vein, we also urge that the deposit copies be in the custody of, rather than the property of, the Government. We have made other recommendations with regard to microfilm compositions and urge their consideration again.

Do you wish to pursue the data base field further at this stage? Or do you wish to go on to software?

CHAIRMAN FULD: I think--briefly--software, sir. Because we have had so long a discussion by CBEMA.

MR. TAFHORN: Mr. Chairman, I think the IIA generally endorses the same comments that CBEMA made with respect to the CONTU Software Subcommittee.

One thing I might discuss a moment is the inputting. The question was asked, what's the basis for assuming that/it might be a copyright infringement to input a copyrighted work into a computer.

One response I might tender is, I think a number of commentators have suggested that the Supreme -- if the Supreme Court were to wrestle with it today, it might have a view different from what was expressed back in 1909.

And now I have a vague recollection

of maybe--people present in this room have distinguished
some of their written works to that effect.

The next point, and I am skipping
over most of them, we wrestled with publication
today. Preemption and publication. I think the
discussion reflects that we are all somewhat uncertain
as to what has been said, and I personally must state that
I have read what the Subcommittee said and certainly
until you make a work available, it is developed
and kept in house under wraps.

There must be Federal copyright and
trade secret rights applicable to that program. That's
the impression I have.

If that is a true statement, then I
would wonder what's the basis for assuming that
cannot be continued -- that trade secret position
cannot be continued--and I want to suggest that
perhaps people confuse copyright publication with
trade secret publication.

I myself refer back to Jeweler's
Weekly, versus Jeweler's Merchantile case, I think
it is. And as I recall it, the Court held that
the marketing jewelers' credit information under
an agreement which said "Keep it confidential" and

the person marketing it said on the documentation
"confidential".   When the suit was brought for
common law copyright infringement, the Court said
"Tough, that was a publication, mister, you lost your
common law copyright."

And I am not aware of what -- of
whether the law states that statement is no longer
true unless one wants to go to the recent Data
General case, Data General versus Digital Computer
Controls as I understand it, involved the manu-
facturer -- a manufacturer who distributed along
with the sale of his machine some manuals which
had on it, "distributed for maintenance purposes only."

The Delaware County Chancery Court
said, "Uh-huh, that's a trade secret infringement "--
that a man   took those manuals and did not use
them for maintenance purposes; he used them to
build a similar machine.

He not only got tagged for trade
secret infringement, he got tagged for common law
copyright.

So that sort of suggests that even
though the publisher was making this available
to everyone who bought a machine, it's not to the

public as a whole. But anyone in the public could

have bought a machine, and those people were getting

copies of the manual and the numbers were considerable.

Now I do have the personal feeling

that the Court could not wrestle with the copyright

concepts, nearly as much as the 1898 New York

Court of Appeals. So it would seem to me that if

I market a program in 1978 under let's say, the

best trade secret agreement I can dream up, and

I don't have a copyright notice in it, and let's

say it's intentionally not there, so we don't

drag in the question of the five year provisions.

I may well have published and kissed my copyright

away.

Now if I hear the discussion today,

if I understood the suggestion today, that copy-

right law had completely preempted the trade secret,

that's not really an available option for the marketer.

If he goes that route, he won't

really have trade secret protection and he won't

have any copyright protection.

Alternatively, I guess, he now puts

a copyright notice into the safe. Must he make a

deposit in three months because he has published?

It's a practical question that occurred
to me, and I am not sure I know the answer, but I
raised them for your review.

The final point I would raise: 117.
There is a paragraph   added in both the CBEMA
and the IIA versions dealing with the copies that
were authorized.

You sell me a computer program and
I am allowed to make several copies. I now sell
that program to Paul here. I choose not to pass
those copies I made on to Paul, including the one
in my computer.

You don't like what I am doing.
Could you proceed against me short of a new additional
paragraph?

I think that concludes my comments.

CHAIRMAN FULD: Yes.

MR. BARON: Mr. Chairman, may I add a point
that has not been discussed here. And that I feel
that I owe the commission.

Back about a year ago --

CHAIRMAN FULD: Is this on data base?

MR. BARON: Yes it's on data base.

I think it cuts across the border

of copyright.

About a year ago Mr. Herenstein and
I were talking about the fact that Standard and
Poor's was addicted to leasing rather than selling.
And one of the reasons we gave you is that the
Schwinn Bicycle case where the Supreme Court had
held that where Schwinn sold bicycles to a distri-
butor they could no longer restrain for control
the resale whether by price or geography.

About three months ago the same Court
decided a case, Continental TV against GTE and held
this. That the so-called per se rule that is that
that restraint was per se a violation of the anti-
trust laws, the so-called per se rule would no
longer pertain.

That instead what we would do would
be guided by a rule of reason as to whether or not
it was reasonable to exercise that kind of control
under all facts and circumstances.

So that the per se rule of the Schwinn
case has been overturned by the Continental TV
case.

However, so far as we are concerned,
we are still being guided by Section 109 of the

new Act, and I see the heads nodding, so I suppose
I don't have to tell you what it is. And we are
still going to go to the route of leasing. We
feel that if we sell we will have no real ability,
even though we so specify by contract, to prevent
a resale of the object -- the product that we have
sold.

I think that the anti-trust phase
in the copyright is important, and that's why I
wanted to take the opportunity to make these remarks.

Now if the Chairman will bear with
me, there is one more thing I would like to say,
just so that the Commission is not confused.

When we are talking about the Encyclopaedia
Britannica we are talking about a passive, let me call
it that, data base. Whatever in the encyclopedia
is being put on magnetic tape, you know, that is
not necessarily the most important phase of data
bases. I'll give you one example which will make
the general principal.

Standard and Poors have what we call
a Compustat service, it gives information, I think
to 136 items on separate companies, separate for
utilities and banks.

The information is garnered from the Federal Trade Commission, ICC, SEC and so on. But the information is correlated according to definitions created by Standard and Poors.

In other words, it's not just a mass of what's in the case, and you know what I mean by that case. Standard and Poors, for example, will take revenue of five different steel companies and the end result on the Compustat data base may well be indifferent from the revenue amounts published in the annual reports in the case of those steel companies because they take the revenues. For example they want operating revenues, not one shot income, in order to show what the corporation is really capable of.

And as we go down the line, we find that a minimum of the information is what we call raw data, and a great deal of the information is what we call manipulated data.

It is the manipulated data that really becomes of importance to the financial world, to investors.

I don't want you to go away with the idea that a data base is simply a compilation of

other factual or hard copy or assimilated information.

COMMISSIONER MILLER: I didn't come to that idea.

(Laughter.)

MR. TAPHORN: May I address a question that was asked of the CBEMA people. I believe it involved whether it was necessary to save a government contractor from criminal liability if, in response to a Department of Defense contract, he is ordered, shall we say, to incorporate a Standard and Poors data base.

I merely want to note that there are provisions in the patent laws which would exonerate the contractor who operated under those provisions.

Now there are criminal provisions for copyright infringement and I believe that the thought was that the contractor ought to be free from the possibility that some zealous district attorney somewhere would take up the cudgel against the contractor who is operating on behalf of, shall we say, the National Defense.

COMMISSIONER HERSEY: I did not have a chance to do this with CBEMA, but I feel obliged to restate my basic challenge of the premise of both these testimonies:

That with respect to computer
programs, that a computer program is a literary
work. The micro-program which is non-volatile,
implanted permanently in the hardware of the micro-
processor, does not strike me as a literary work,
any more than the distributor of an automobile is
a literary work.

A distributor is a series of in-
structions to send electricity to the spark plug,
to the first cylinder, send it to number four,
send it to three, send it to two.

Is a distributor a literary work?
I cannot accept the idea that the essentially
permanently mechanical objects are literary works.

And, I can see that when this is
written out by a person, natural or otherwise,
it is at that stage literary work.

But when it comes into this machine
controlled device, it is no longer a literary
work. I am sure.

MR. TAPHORN: Mr. Hersey, may I approach it
this way? I want to ask you a question.

Are you willing to assume that it is
a literary work when there is no magnetic tape?

Are we together so far?

COMMISSIONER HERSEY: Well, it depends.

I am told today that a source program can indirectly operate a machine, and I take it what that means is/that, instead of it being converted as a whole inanimate object program, you need a man to convert it to object form at that point.

MR. TAPHORN: You are leading on to make another statement though. I would state the thought that the source code may be encoded on the magnetic tape as a series of ones and zeros which, per the code, can be deciphered right away.

I want to suggest that it can appear in the same way in this hardware you are referring to where we merely have changed from, shall we say, a flexible magnetic tape medium to something that's more solid.

And I may have earlier made the reference to writing the 10 Commandments on cobblestone.

COMMISSIONER HERSEY: It's the same way the distributor has gone to the person who designed it to something which is more solid.

MR. TAPHORN: I want to say so the same manifesta-

tions that reflected its presence on magnetic tape could be present on the chip.

COMMISSIONER HERSEY: No. I don't regard a one and a zero as the same thing as an electrical impulse; it's different and it's being converted.

MR. TAPHORN: I want to suggest that the ones and zeros can be recorded one for one, zero to zero on the chip.

Exactly the same thing the same writing, so now with the machine. It must decode those ones and zeros to establish the logic in that it will carry out.

Now, a very good example would be the IBM computer 360 model 75 versus shall we say the 360 model 60 back there in the 1960's.

In the model 75 the instructions were completely decoded by wired logic and the end result was achieved for the other computer, it was completely of its own design.

The other computers had microcode in them, which was a series of subprograms, which broke the thing down to some lower level logic and then it ended up in these lower machines and more inexpensive machines, so that countered for

the family of computers.

So the hardware logic is different from the logic of writing a program on a chip. And on magnetic tape.

COMMISSIONER HERSEY: We are in a logistic problem that we can't solve here this afternoon. And I simply have to assert that we all know where the literary work is.

And we all know that a mechanical device is not a literary work. And it's very hard to resolve this.

MR. TAPHORN: Do you consider the 10 Commandments on stone a literary work?

COMMISSIONER HERSEY: Yes. I can read them. If I can read that language.

MR. TAPHORN: I, or at least someone familiar with the code can read what is on a chip appropriately magnified. It would be one for one. I want to suggest other than making that codal transformation there would be no logical explanation.

COMMISSIONER HERSEY: I'd suggest there's a difference in the striking of those letters onto this tablet in purpose. They were to be published to the world.

And the expert who can read this
code, it's a very different concept in publication.
A literary work.

MR. TAPHORN: The observation I would make
is if that things are not made unreadable so that
others may not read them, they become unreadable
for reasons of computer efficiency.

That the smaller the parts and the
more dense the packaging the faster the computer
can operate.

You know that in a microsecond
light and electricity at best travel one foot.
But we are operating in anoseconds, thousandths of
that foot, and things have to be packed so close
together in order to achieve that speed, if you
had large things, things by nature that would have
to be separated,

you could not obtain computer speeds
you have today. So it is technically different
requirements that things are small.

It really can't be deciphered by
somebody who is interested.

COMMISSIONER HERSEY: I will accept your
argument that the 10 Commandments on stone have

-- if they had eliminated murder and other things they were intended to do from our lives, --

MR. TAPHORN: I could perhaps take the liberty of repeating a joke in the hopes of offending no one. But I understand a Jewish Rabbi was criticizing a Catholic priest for the Catholics having stolen the 10 Commandments and the Catholic priest admitted that was true, but on the other hand the Rabbi should not be upset because the Catholics weren't keeping them either.

(Laughter.)

MR. LEVINE: A quick question. Mr. Zurkowski, you say you have already seen infringing patterns whereby users are bleeding off on micro-minicomputers some data bases.

Are there specific examples and if there are specific examples have these owners of the data bases attempted in some fashion to stop that activity?

MR. ZURKOWSKI: I think there are examples that came to my attention. Those cases where they find them -- by whatever means they have to be able to detect that. They have sought to correct it by either withdrawing the data base or --

MR. LEVINE: Have they invoked the copyright laws, do you know?

I mean after discussing the 10 Commandments I should not use the word invoke, but have they attempted to use the copyright laws?

MR. ZURKOWSKI: I do not know.

CHAIRMAN FULD: All right, we'll recess at this time and thank you very much for enlightening us.

MR. ZURKOWSKI: Thank you for the opportunity.

CHAIRMAN FULD: And we'll reconvene tomorrow at 9:30 in the morning. I want to thank all of you.

(Which were all the proceedings had for this day.)

NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS
(CONTU)

DATA BASE SUBCOMMITTEE REPORT
&
ADDITIONAL VIEWS

The National Commission on New Technological Uses of Copyrighted

Works, in compliance with that portion of its mandate which instructs it

to examine questions concerning computer uses of copyrighted works,

has designated a Data Base Subcommittee to prepare a preliminary report

concerning the manner in which automated data bases should be dealt with

by copyright. That report, containing the recommendations of the Data

Base Subcommittee, is herewith presented for public comment. It has not been

adopted by the full Commission, which will base its final report to

the President and the Congress upon response to this document, further

hearings, and the results of several studies now in progress concerning

the economic, public interest, and consumer questions associated with

the issues before the Commission.

Appended to the report are the individual views of those Commissioners

who desire at this time to comment upon the Subcommittee's recommendations.

Written comments or requests for the opportunity to testify on

this subject at future Commission meetings should be addressed to Arthur J.

Levine, Executive Director, National Commission on New Technological

Uses of Copyrighted Works, Washington, D.C. 20558. Requests to appear

must be received by August 1, 1977, so that the Commission may plan appropriate

hearings early in the fall. Written comments would be welcome at any time

but should be submitted by September 1, 1977.

REPORT OF THE DATA BASE SUBCOMMITTEE TO THE

NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS

The automated data base represents a 'new technological use of a type

of work long recognized as eligible for copyright. Dictionaries, encyclopedias,

and tables of numeric information are all forms of data bases which antedate

the computer by many decades, and for which copyright protection has been,

and will continue to be, available under applicable copyright law. Under

the new law a data base is a compilation and thus a proper subject for

copyright. 1/ This entitlement to copyright is not diminished by the

fixation of the information content of a data base in a medium requiring the

intervention of a computer to accomplish the communication of content. 2/

Accordingly a data base, whether printed in traditional hard copy or fixed

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1/ Section 101, P.L. 94-553 defines "compilation" as

> a work formed by the collection and assembling of
> pre-existing materials or of data that are selected,
> coordinated, or arranged in such a way that the
> resulting work as a whole constitutes an original
> work of authorship. The term "compilation"
> includes collective works.

2/ Section 102(a), P.L. 94-553, provides that

> Copyright protection subsists, in accordance with
> this title, in original works of authorship fixed in
> any tangible medium of expression, now known or later
> developed, from which they can be perceived, reproduced,
> or otherwise communicated, either directly or with the
> aid of a machine or device (emphasis added).

on electromagnetic tape, is protected by copyright under the terms of the
new law. 3/

Computer-readable data bases do differ, of course, from their hard-copy

counterparts. Some of these differences raise copyright issues and related

policy considerations, and the Data Base Subcommittee has attempted to

identify those societal interests and values which could be advanced

by the Commission's recommendations with regard to data bases. Copyright

applied to data bases should, it was generally agreed, encourage the

development and dissemination of useful stores of information, so as to make

this information readily availabe to the public. In addition, the Commission

should encourage data base proprietors to publish and register their copy-

righted works, which would create a public record of the existence of the works

and, in turn, make possible public awareness and utilization of the works. 4/

3/ The House of Representatives Report accompanying P. L. 94-553 makes clear
the intention to include computer-readable data bases within copyright by
explaining that:

> The term 'literary works' does not connote any criterion
> of literary merit or qualitative value: it includes catalogs,
> directories, and similar factual references, or instructional
> works and compilations of data. It also includes computer data
> bases...H.R. Rep. 94-1476, 94th Cong., 2nd Sess. 54 (1976)
> [hereinafter cited as "H.R. 94-1476"].

4/ Maximization of public access to information contained in automated data
bases is cited as a significant goal of a national information policy in the
Report to the President of the United States on National Information Policy
70 (1976), prepared by the Domesitc Council Committee on the Right of
Privacy, under the chairmanship of then-Vice President Nelson Rockefeller.

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The following discussion is premised upon the Commission's agreement with the legislative intent of the new copyright law to accord copyright protection for computer data bases equivalent with the protection accorded compilations in traditional hard-copy format. The problem-areas identified by the Commission are: 1) What copyright consequences attach to the "input" into a computer of a copyrighted work (perhaps better described as the fixation of a work in a medium capable of use within a computer system)? 2) What rights does the proprietor of copyright in a data base have in regard to the use of extracts provided in response to authorized searches or enquiries made of the data base? and 3) What constitutes publication of a data base, and what legal consequences attach to publication? 5/

I. The "Input" Issue

The issue whether copyright liability should attach at the "input" or "output" stage of use in conjunction with a computer, i.e., at the time a work is placed in machine-readable form in a computer memory unit

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5/ It should be clear that the same principles which apply to data bases apply also to any copyrightable works embodied in a format for use and reproduction within a computer.

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or when access is sought to the work existing in computer memory, has

been the primary source of disagreement regarding copyright protection

for works in computer-readable form. This issue provided the major impetus

for the introduction of Section 117 into the copyright revision bill,

which was designed to delay reaching any final resolution of the "input-

output" problem, without delaying passage of the copyright

revision bill, until further consideration of the issue could be undertaken

by a then still-to-be-created commission (CONTU).[6]   It appears, nevertheless

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6/ Section 117, P.L. 94-553, provides:

> Notwithstanding the provisions of sections 106 through
> 116 and 118 this title does not afford the owner of
> copyright in a work any greater or lesser rights with
> respect to the use of the work in conjunction with
> automatic systems capable of storing, processing,
> receiving, or transferring information, or in
> conjunction with any similar device, machine, or
> process, than those afforded to works under the law,
> whether title 17 or the common law or statutes of a
> State, in effect on December 31, 1977, as held
> applicable and construed by a court in an action
> brought under this title.

This section was first introduced into the copyright revision bill in 1969,
see S. 543, 91st Cong., 1st Sess. (1969), at which time the impact of the
computer, and particularly the "input-output" question, was causing great
concern on the part of copyright proprietors. Section 117 was agreed upon
by interested parties as a means of permitting passage of the copyright
revision without committing the Congress to a position on the computer-
related issue until more study could be undertaken.

that the provisions of the new copyright law offer appropriate and sufficient

guidance to determine what acts create copyright liability in this area.

The protection afforded by section 106 of the act would seemingly prohibit

the unauthorized storage of a work within a computer memory which, being

merely one form of reproduction, would be one of the exclusive rights

granted by copyright. 7/

Considering the act of storing a computerized data base in the memory

of a computer as an exclusive right of the copyright proprietor appears

consistent both with accepted copyright principles and with considerations

of fair treatment for potentially affected parties. Making a copy of an entire

work would normally, subject to some possible exception for fair use, be

considered exclusively within the domain of the copyright proprietor. One

would have to assume, however, that fair use would apply rarely to the repro-

duction in their entirety of compendious works, such as data bases. 8/ If a

copy of the work is to be stored in a computer and subsequently made accessible

to others, its creation would have to be properly authorized by the copyright

proprietor. The fact that only one copy is being made, or even that the owner

of the computer system intends to exact no fee for providing access to the

work, would no more insulate the copies from liability for copyright infringement

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7/ It may be that the use of the term "input" to describe the act to which
copyright liability attaches has been misleading. A more accurate description
of the process by which a work may be stored in a computer memory would
indicate that a reproduction is created within the computer memory in order
to make the work accessible by means of the computer.

8/ See section 107, P. L. 94-553 for statutory criteria governing "fair use."

than would similar circumstances insulate a public library which made unauthorized

duplications of entire copyrighted works for its basic lending functions. <u>9/</u>

Under normal circumstances, the transfer by sale or lease of a copyrighted

work in computer-readable form, such as a data base, would be a meaningless

transaction unless implicit in the transfer was the authorization to place

or reproduce a copy in the memory unit of the transferee's computer. Any

limitations on the use to be made of the copy would be a matter to be

negotiated between private parties, guided by applicable public policy

considerations. <u>10/</u> The proprietor of a work in computer-readable form would,

under any foreseeable circumstances, be able to control by contract the future

disposition of machine-readable copies of his proprietary work. Thus,

the proprietor of copyright in such a work would always have a valid cause

of action, arising either under copyright or contract, if a reproduction of

the work is entered into a computer without the proprietor's authorization, or

if a transferee authorizes a third party to enter a copy into the memory unit

of a computer in violation of the terms of a valid agreement with the proprietor.

9/ The example of a copyrighted work placed in a computer memory solely to
facilitate an individual's scholarly research has been cited in earlier
Commission meetings as a possible fair use. The Data Base Subcommittee agrees
that such a use, restricted to individual research, should be considered fair
use. In order to prevent abuse of the "permission" provided under fair use
principles, any "copy" created in a machine memory should be erased after completion
of the particular research project for which it was made. This "copy" could
be retained, for archival or further research purposes, only with authorization
from the copyright proprietor.

10/ Outright sale by a copyright proprietor of a copy of a protected work,
rather than a lease under which the proprietor retains ownership of a copy
which the lessee may use in accord with negotiated terms and conditions,
normally results in a complete loss of control over the copy which has been sold.
This reflects the unwillingness of courts to enforce restrictions on the
alienation of property, once a complete transfer of ownership interest in any
item of property has been accomplished.

The fact that copyright would not provide the sole right and remedy for

unauthorized use of a protected work is neither unique to the protection

of proprietary interests in computer-readable works, nor is it a situation

to be considered undesirable. 11/

Accordingly, the Data Base subcommittee believes that the application

of principles already embodied in the language of the new copyright law

achieves the desired substantive legal protection for copyrighted works which

exist in machine-readable form. The introduction of a work into computer

memory would, consistent with the new law, be a reproduction of the

work which is one of the exclusive rights of the copyright proprietor.

The unauthorized transfer of an existing machine-readable embodiment of a

work could subject the violators to remedies for breach of contract.

Principles of fair use would be applicable in limited instances to excuse an

unauthorized "input" of a work into computer memory. Exemplifying such fair

uses could be the creation of a copy in computer memory in order to prepare

a concordance of a work, or to perform a syntactical analysis of a work,

which but for the use of a computer would require a prohibitive amount of

human time and effort. To satisfy the criteria of fair use, any copies

created for such research purposes should be destroyed upon completion

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11/ Remedies for breach of contract, if the right being protected is not
equivalent to copyright, would not be preempted under the provisions of
Section 301 of the new copyright law, and would accordingly be available to
one who, on the strength of a copyright interest, granted permission to another
to make certain uses of the copyrighted work only to have the terms of the
authorization violated. There continues to be some scope for state enforcement
of proprietary rights in intellectual property under the new copyright law.
See H.R. 94-1476, supra note 3 at 131-32. The fact that state, rather than
federal, law would be involved presents few real problems. The existence of
parallel, but not equal rights under state and federal law reflects advantages
as well as disadvantage's inherent in a federal polity, and in event both claims
could be joined in the same federal cause of action under principles of pendent
jurisdiction.

for the research project for which they were created. Should the individual or

institution carrying on this research desire to retain the copy for archival

purposes or future use, it should be required to obtain permission to do so from

the copyright proprietor. All these provisions could be explained in CONTU's final

report and, depending upon actions taken by Congress pursuant to the report, would

be considered an interpretive aid to the copyright law akin to legislative reports.

II. Scope of Copyright in a Data Base

A computer-readable data base derives its value in large part from the ease

with which a user may retrieve from it data conforming to certain specifications.

That ease is the product of several factors -- the organization of the data, the

sophistication of the program which assists in the searching and retrieving, and

the skill of the searcher in articulating the search criteria. The difference be-

tween using a data base in hard copy and one in computer-readable form is that the

12/

former is passive and the latter may be, in the language of the industry, interactive.

Thus a student who searches the Reader's Guide to Periodical Literature (a copyrighted

data base) must not only know what is sought but must also painstakingly read much

unsought material found in numerous volumes and updates to obtain the desired

information. If, however, an interactive bibliographic data base is used only the

topic(s) of interest need be expressed in order to receive citations to apparently

pertinent literature and, frequently, abstracts of that literature to allow further

evaluation of its utility. One important question for the Commission's purposes

concerns what rights the proprietor of a computer-readable data base has in the

information obtained pursuant to a user's request to, or "search" of, such

a data base.

12/ An "interactive" data base is one with which a user, aided by a computer, can
"converse," i.e., the user frames questions to which the data base, controlled by
a computer, provides response.

There appears little doubt that one who obtained access to a copyrighted data base by normal commercial methods -- paying the proprietor or the proprietor's authorized agent for the right to search the data base and retrieve from it information or data responsive to the search request -- would infringe an existing copyright by retrieving the entire data base and marketing an exact duplicate in competition with the copyright proprietor. Such activity would beyond question be unauthorized copying in violation of a valid copyright. Purchasing access to information contained in a data base no more entitles one to make and employ copies for commercial purposes than would purchasing a copy of a copyrighted directory entitle one to produce and disseminate copies of the directory.

Two complications arise in attempting to define the scope of protection in a computerized data base. First, such works are not static; rather, they are constantly being updated by the addition of current data and the deletion of that determined obsolete. Second, the question as to what rights a copyright proprietor has in extracts of information retrieved pursuant to an authorized search of the data base must be addressed. Provisions applicable to both issues are found in the text and legislative reports of the new law.

The dynamic process by which a data base changes need not affect the entitlement of the data base to copyright protection. This process raises two concerns: 1) that deposit of a new embodiment of the data base to reflect every modification of the data therein contained would be both extremely expensive for the proprietor and cumbersome for the Library of Congress; and 2) that a proprietor, by virtue of the constant updating of the data base, could claim copyright in the work in perpetuity, in disregard of the "limited times" provision of the Constitution and the statutory term of 75 years applicable

to data bases under the new statute. Neither of these concerns need cause
serious problems.

The deposit requirement should prove no bar to providing effective copyright
protection for dynamic data bases. Deposit is not a precondition to copyright
under the new law. Sections 407(c) and 408(c) of the new copyright statute
authorize the Register of Copyrights to exempt categories of material from
the deposit requirements by regulation, or to require alternative forms of
deposit. Computer data bases seem well-suited for this exemption, for the
deposit of an identifying form would achieve the statutory purpose of "providing
a satisfactory archival record of a work without imposing practical or financial
hardships on the depositor." [13/] Nor would a dynamic data base necessarily
obtain protection for a longer period than constitutionally or legislatively
authorized, any more than would a telephone directory be given perpetual protection
by virtue of its being updated annually. The proprietor of a data base would
have to register anew periodically for copyright in such work, just as the
proprietor of a telephone directory obtains copyright in new editions of a
work periodically appearing.

.Similar also to a telephone directory, copyright in a dynamic data base
protects no individual datum, but only the systematized form in which the
data is presented. The use of one item retrieved from such a work -- be it
an address, a chemical formula, or a citation to an article -- would not
under reasonable circumstances merit the attention of the copyright
proprietor. Nor would it conceivably constitute infringement of copyright.

13/ Section 407, P.L. 94-553.

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The retrieval and reduplication of any substantial portion of a data

base, whether or not the individual data are in the public domain,

would likely constitute a duplication of the copyrighted element of

a data base, and would be an infringement. In any event, the issue

of how much is enough to constitute a copyright violation would likely

entail analysis on a case-by-case basis with considerations of fair use

bearing on whether the unauthorized copying of a limited protion of a

data base would be held non-infringing. The Commission could recommend

in its Report, that fair use would have very limited force when an

unauthorized copy of a data base was made for primarily commercial use.

Only when information of substantial amount were extracted and duplicated

for redistribution would serious problems exist, raising concerns about

the enforcement of proprietary rights.

It appears that adequate legal protection for proprietary rights in

extracts from data bases exists under tranditional copyright principles

as expressed in the new law, supplemented by still-available relief under

common law principles of unfair competition. The unauthorized taking of

substantial segments of a copyrighted data base should be considered

infringing, consistent with case law developed from infringement of copyright

in various forms of directories.[14] In addition, common law principles of mis-

appropriation, which according to the legislative reports accompanying

the new law are not preempted with regard to computer data bases,[15] are

available to enforce proprietary rights in these works.

14/ See, e.g., Leon v. Pacific Tel. & Tel., 91 F. 2nd 484 (9th Cir. 1937)
and Jeweler's Circular Pub. Co. v. Keystone Pub. Co., 281 F. 83 (2d Cir.),
cert. denied, 259 U.S. 581 (1922), aff'g 294 F. 932 (S.D.N.Y. 1921).

15/ H.R. 94-1476, supra note 3 at 132.

III. Publication

"Publication" is defined in section 101 of the new law as follows:

"the distribution of copies or phono-
records of a work to the public by sale
or other transfer of ownership, or by
rental, lease, or lending. The offering
to distribute copies or phonorecords to
a group of persons for purposes of further
distribution, public performance, or
public display, constitutes publication.
A public performance or display of a work
does not of itself constitute publication.

According to sections 401 and 407 of the new law, after publication the

copyright owner is required to place copyright notice upon all publicly

distributed copies of a work, and to deposit for the Library of Congress

two copies of the work. If a proprietor wishes also to register the work

in accordance with section 408, the deposit required by section 407 must

be accompanied by the prescribed registration application and fee. While

the failure to deposit copies will not result in forfeiture of copyright, the

failure to place notice on published copies may. [16/]   Accordingly, it is of

considerable importance to know what acts constitute publication of any copy-

righted work. Computerized data bases are no exception.

16/ Under the new law, the most significant effect of the act of publication
is the requirement that copyright notice be affixed to all copies of the
work distributed thereafter. Omission of notice may result, in accord with
the provisions contained in Section 405, in the foreiture of copyright.
Section 405 of the Act of 1976 provides that omission of notice will not
invalidate copyright if notice is omitted from a relatively small number of
publicly distributed copies, if the work is registered within 5 years of
publication and reasonable efforts are made to add notice to pubicly dist-
ributed copies, or if omission of notice violates terms set by the prop-
rietor for authorizing public distribution of copies of the work. Section
406 deals with errors in contents of the notice with like flexibility.
The failure to include notice may, at least temporarily deny the proprietor
his full rights in a copyrighted work, i.e., to prevent and collect damages
for unauthorized copying.

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The definition cited above, and further discussed in the legislative

reports accompanying the law, provides a reasonably clear benchmark for

determining when a data base used in conjunction with an automated storage

and retrieval system, i.e., a computer, is "published" for the purposes

of the copyright law. The House Committee Report thoroughly discusses

the concept of publication in the context of considering the duration of

copyright under the new bill. It states that:

> "Under the definition in section 101, a
> work is 'published' if one or more copies
> or phonorecords embodying it are distributed
> to the public -- that is, generally to persons
> under no explicit or implicit restrictions
> with respect to disclosure of its contents --
> without regard to the manner in which the
> copies or phonorecords changed hands. The
> definition . . . makes plain that any form
> of dissemination in which a material object
> does not change hands -- performance or
> displays on television, for example -- is
> not a publication no matter how many people
> are exposed to the work. On the other hand,
> the definition also makes clear that, when
> copies or phonorecords are offered to a
> group of wholesalers, broadcasters, motion
> pictures, [sic], etc., publication takes
> place if the purpose is 'further distribution,
> public performance, or public display.'" 17/

Accordingly, a data base proprietor could, by display alone, make the

data base available to users, without having published the data base.

The same would be true where the proprietor leased a tape containing the

data base directly to a user and placed that user under explicit restrictions

prohibiting disclosure or transfer. Under these circumstances, the failure

to place copyright notice on the data base, or to register with the Copyright

Office, would jeopardize no rights the proprietor might have. If, however,

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17/ H.R. Rep. No. 1476, 94th Cong., 2nd Sess. 138 (1976).

the proprietor authorized transferees to distribute copies or make available

displays of the data base, publication would be accomplished and the notice

and registration requirements of the law would take affect. Many data bases

are marketed in exactly this way, with the proprietor authorizing the

broker to distribute or display extracts from the data base.

Certain consequences flow from the publication of any work. Publication

of a work activates the requirement of deposit under section 407, and a

proprietor might choose not to publish and thereby avoid the need to affix

notice to all copies and deposit two copies for the Library of Congress.

The doctrine of fair use may be applied more narrowly to unpublished than

to published works The Senate Report accompanying the new law indicates

that "The applicicability of the fair use doctrine to unpublished works

is narrowly limited since, although the work in unavailable, this is

the result of a deliberate choice on the part of the copyright owner."[18]

Accordingly, the proprietor of a work may have somewhat greater rights in un-

published as opposed to published works.

Certain remedies for infringements may be made available to one

who publishes and registers a work which would be denied to the proprietor

of an unpublished, unregistered work under the provisions of section 412

of the Act of 1976. One who succesefully prosecutes a copyright infringement

action may be entitled, under section 504 of the new law, to an award of

statutory damages in spite of an inability to prove actual damages.

The proprietor may also be entitled to an award of attorney's fees under

the provisions of section 505. Section 412 provides that the proprietor

of copyright in a work neither published nor registered at the time

of the infringement is not entitled to these remedies; the proprietor of a

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18/ S. Rep. No. 473, 94th Cong., 1st Sess. 64 (1975).

published work, however, may register the work within three months after

publication without forfeiting these remedies for infringing acts occurring

after publication. While the key factor in determining the availability

of these remedies is registration, there exists the three-month grace

period after publication for registering copyright, during which period

the lack of registration will not preclude availability of statutory damages

and attorney's fees for infringements then occurring. No such grace period

exists for registering works which are unpublished. Consistent with this

thrust of the new law, the Commission's recommendations should encourage

proprietors of data bases to publish and register their works and create

a public record of the information available through their proprietary

works.

IV. Recommendations

As previously discussed, the new law appears to deal with many of

the questions raised in relation to copyright protection and automated

data bases. We believe, for example, that the questions relating

to whether or not input of a data base is an exclusive right included

within copyright, and to the scope of protection to be provided a data base

by copyright, can and should be answered in accord with the provisions

already enacted in the new copyright law. Because data bases are, in some

sense, unique, we believe the inclusion of appropriate language in CONTU's

final report, consistent with that employed in the contents of this

memorandum, will provide an appropriate interpretive aid to the statute.

The Subcommittee further believes that appropriate registration and deposit

requirements should be adopted by the Register of Copyrights consistent with the

statutory discretion vested in that official, to permit and encourage the

registration and periodic updating of identifying material rather than

actual duplicate copies of data bases. Reasons justifying such

action by the Register are found in the body of this memorandum.

There appears no reason to tailor any notice requirements specifically to

computer readable works: general principles contained in the new law

seem adequate without being particularly burdensome. Notice appearing

on the initial display of any extract or extracts obtained from the

data base pursuant to a search should comply with the intent of the

statutory notice requirement. Copyright notice can easily be included

on the initial display extracted from a data base, and human readable notice

can also appear on the packaging. This could be explained in CONTU's final

report. 19/

Finally, we recommend the deletion of Section 117 of the new law,

as was apparently the legislative intent upon completion of CONTU's work.

Whether or not CONTU's recommendations are adopted by Congress, it would

be anomalous and undesirable, as well as perhaps meaningless, to continue

to include reference to pre-revision bill law within a new statutory

enactment intended to be a complete codification of the law.

19/ The Copyright Office is currently drafting regulations to take effect
upon the effective date of the new law. The CONTU staff has been informed
that, as a result of the issues of data base deposit and notice requirements
having been raised by CONTU, these issues will be the subject of proposed
regulations presently being drafted.

STATEMENT OF COMMISSIONER GEORGE D. CARY

Although I concur in the overall provisions of the draft report

of the Data Base Subcommittee, I should like to note a matter which

may be related to the deposit of Data Bases as an element in the registration

process, and which bears further consideration.

While I agree with so much of the proposed recommendation appearing

on pp. 15-16 of the draft report dated 18 April 1977 that urges the

Register of Copyrights to adopt appropriate regulations "to permit and

encourage the registration and updating of identifying material," I have

some misgivings to express agreement with that portion of the recommendation

which implies that in no case should the Data Base itself be deposited.

Unless and until the Copyright Office possesses the necessary equipment

which could cause the electronic signals on a tape, disc, etc. to be

"perceived, reproduced or otherwise communicated either directly or with

the aid of a machine or device," in a manner adequate to serve the needs

of its patrons, it may serve no useful public purpose to require the

deposit of a complete Data Base in each and every case. But this is not

to say that in every situation "identifying material" may always be

suitable or satisfactory. It is to these possibilities that I believe

the door to deposit should not be closed.

Again, the Commission should be more specific with respect to the

contents of the "identifying material" in lieu of copies which it is

proposed to request the Register of Copyrights to embody in a regulation.

The public interest is to be served, it seems to me, only if the "identifying

material" contains sufficient information to indicate exactly what specific

matter is being made the subject of a particular copyright registration.

In short, it should serve as an abstract of the Data Base itself.

For example, in the case of a Data Base which is continually being

updated by the minute or hour, it would seem to be most unsatisfactory

to one searching the records of the Copyright Office to find "identifying

material" which merely specified that the particular claim of copyright

covered "additions and revisions."

The "identifying material," it seems to me, must be meaningful and

complete enough to direct one searching the records to an understanding

of the content of the particular copyright claim. In some situations,

it may be that only a reading out of the Data Base itself may be able

to furnish the desired information. Hence my reluctance to recommend

the acceptance by the Copyright Office of "identifying material" in

all circumstances.

NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS
(CONTU)

SOFTWARE SUBCOMMITTEE REPORT
&
ADDITIONAL VIEWS

The National Commission on New Technological Uses of Copyrighted

Works, in compliance with that portion of its mandate which instructs it

to examine questions concerning computer uses of copyrighted works,

has designated a Software Subcommittee to prepare a preliminary report

concerning the manner in which computer programs should be dealt with

by copyright. That report, containing the recommendations of the Software

Subcommittee, is herewith presented for public comment. It has not been

adopted by the full Commission, which will base its final report to

the President and the Congress upon response to this document, further

hearings, and the results of several studies now in progress concerning

the economic, public interest, and consumer questions associated with

the issues before the Commission.

Appended to the report are the individual views of those Commissioners

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Written comments or requests for the opportunity to testify on

this subject at future Commission meetings should be addressed to Arthur J.

Levine, Executive Director, National Commission on New Technological

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must be received by August 1, 1977, so that the Commission may plan appropriate

hearings early in the fall. Written comments would be welcome at any time

but should be submitted by September 1, 1977.

NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS
(CONTU)

REPORT OF THE SOFTWARE SUBCOMMITTEE

TO THE

NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS

I. Introduction

This report contains the recommendations of the Software Subcommittee of the National Commission on New Technological Uses of Copyrighted Works (CONTU) concerning the way in which computer programs should be dealt with by changes in Title 17 of the United States Code (the Copyright law of the United States). [1] These recommendations have not been adopted by the Commission. They are being circulated at this time in order that written or, when appropriate, oral comments may be made by interested parties so that the Commission will be able to base its final report in this area on the broadest possible foundation.

The Software Subcommittee has sought to determine how to balance important individual and societal interests which conflict with one another to a certain extent. Those interests include the broad dissemination of works of authorship -- here, computer programs; the ability of authors to recover their costs from the distribution of their wares; and the protection of works of authorship against their misappropriation. The Subcommittee submits that these interests can best be balanced with respect to computer programs, as

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[1] Indeed, certain Commissioners are skeptical about the need for any form of protection for computer programs as well as the copyrightability of such works. See Part V, entitled "Postscript."

with all other works of authorship, by affording such works copyright protec-
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tion.

The United States Constitution provides that Congress has the power

to promote artistic and scientific progress by granting limited monopolies to

authors and inventors. Congress has exercised this power by enacting copy-

right and patent laws. The underlying rationale for such laws is that they

provide incentives for the creation and distribution of original works which

are of value to society. Copyright law gives moderate protection to the

original writings of authors for an extended period of time without regard

to the quality of the work. Patent law, on the other hand, gives stronger

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2/ It is interesting to note that after a three-year study, the British Com-
mittee to consider the Law on Copyright and Designs, in its report to Parliament,
made recommendations concerning computer programs which are very similar to those
contained in this draft. Paragraph 520 of that report (known, after the commit-
tee's chairman, as the Whitford Report) contains the following recommendations:

1) Computer programs should be treated, for copyright
purposes, as literary works.

2) The storage of copyrighted material in a computer
memory should be an action over which the copyright
owner has control.

3) Programs and data bases should enjoy the same terms
of protection as other copyrighted works.

4) Copyright in works produced with the aid of a computer
should belong to those who devised the instructions
and originated the data which led to that particular
result.

5) The unauthorized "use" of a copyrighted program should
be an infringement.

The Whitford Committee was unanimous as to the first four recommendations, but
there was a division concerning the fifth, with a majority favoring the "use-
infringement" result.

protection to certain discoveries of inventors for a much shorter period of time if and only if the federal government is satisfied that the work is useful, novel and nonobvious to those familiar with the related technology. Very broadly, copyright is designed to protect the expression of ideas while patent's purpose is to protect what are generally understood to be inventions -- in a sense the ideas themselves.

In discussing computer programs attempts are often made to explicate various problems by the use of analogies in which the statement "computer programs are more or less like..." is frequently used. Indeed, the Subcommittee has in the past resorted to such devices. Programs, unfortunately or otherwise, are "like" little else. They are, however, writings which set forth instructions or sets of instructions. As simple as this sounds, it bears emphasis: they are not "like" books, paintings, or television sets. They are instructions fixed in a tangible form of expression. As will be discussed in some detail below, they are thus within the ambit of traditional American copyright.

A computer program is a writing which sets forth instructions which can direct the operation of an automatic system capable of storing, processing, retreiving or transferring information. It is an explanation of a process and not the process itself. This distinction between the process and the writing which describes it is of critical importance to understanding how copyright applies to computer programs. With a computer program as with

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all forms of creative endeavor, there are three different phenomena:

  1) A description of the activity (process);

  2) The activity (process) itself; and

  3) The results of the activity (process).

Descriptions of a process are protectable through copyright without regard to whether they are narrative descriptions or lists of instructions.[3/] Processes or principles of operation -- indicated by the second category -- are protectable, if at all, through patents or trade secrecy. The copyright status of the results of the activity or process is not dealt with in this report which is concerned only with the copyright status of the computer program. At all events the program is not the process itself but is a writing

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3/ It has been suggested that a program, in object code -- that form of the program which when inserted in the computer activates machine operations -- might be constitutionally uncopyrightable because of its lack of communicative potential. To the untrained reader the object code does seem to lack communicative potential. That could also be said, however, of such clearly copyrightable works as a book in Sanskrit or a mathematical table of numbers. The Subcommittee is strongly of the opinion, that, if lines must be drawn between those forms of programs in which copyright may, and those forms in which it may not constitutionally subsist, that should be done by the judiciary to whom such tasks have traditionally been given in light of changing technological and marketplace conditions rather than by the Commission in its recommendations to Congress.

Copyright protection for programs would clearly be constitutional and invulnerable to attack directed at their utilitarian and apparent non-communicative nature. It is noteworthy that ever since the 1909 revision, such diverse works of authorship as telephone books, Leon v. Pacific Tel. & Tel. Co., 91 F.2d 484 (9th Cir. 1937); freight tables, Guthrie v. Curlett, 36 F.2d 694 (2d Cir. 1929); interest tables, Edwards & Deutch Lithographing Co. v. Boorman, 15 F.2d 35 (7th Cir. 1926); lists of motor vehicle registrants, New Jersey Motor List Co. v. Barton Business Serv., 57 F.2d 353 (D.N.J. 1931); and lists of otherwise meaningless five-letter code "words", Reiss v. National Quotation Bureau, 276 Fed. 717 (S.D.N.Y. 1921); whose value lies in utility rather than artistic merit, have all been found copyrightable. The intellectual effort required for the creation of a computer program is really not different from the efforts which created the above-described works which have been held to be copyrightable.

that sets forth a set of instructions permitting the process to occur.

As such it is copyrightable. The Subcommittee, therefore, believes that

Congress was correct in treating them as "works of authorship" in a
legislative report [4] accompanying the new Copyright Act. [5]

II. Why Protection?

The cost of developing a complex computer program is far greater

than the cost of duplicating it. Consequently, computer programs are likely

to be disseminated only if:

1) The creator can recover all of his costs
   plus a fair profit on the first sale of
   the work, thus leaving him unconcerned
   about the later duplication of the work;

2) The creator can spread his costs over
   multiple copies of the work with some
   form of protection against unauthor-
   ized duplication of the work;

3) The creator's costs are borne by another,
   as, for example, when the government or a
   foundation offers prizes or awards; or

4) The creator is indifferent to his costs
   and donates the work to the public.

The consequences of the first possibility would be that the price of

virtually any program would be astronomical, leading necessarily to a drastic

reduction in the number of programs marketed. In this country, possibilities

three and four occur but rarely outside of academic and government-sponsored

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[4] H.R. Rep. No. 1476, 94th Cong., 2d Sess. (1976).

[5] P. L. 94-553 (1976).

research. The Subcommittee is, therefore, satisfied that some form of protec-

tion is necessary to encourage the creation and broad distribution of computer

programs in a competitive market.[6/] These works are the product of great

intellectual effort and their utility is unquestionable. They permit the

rapid and accurate completion of tasks that otherwise would have to be per-

formed manually. Copyright protection in this instance is clearly of great

social benefit in that it prevents the unjustifiable utilization of another's

creative efforts without the permission of the original creator.

III. Why Copyright?

In examining numerous non-copyright and "hybrid" proposals for pro-

tection,[7/] as well as in giving thought to other considerations, the Subcommittee

concluded 1) that programs are not different from other works now subject to

copyright and, therefore, do not require a separate form of protection; 2) that

the use of any of the other mechanisms for securing rights in intellectual pro-

perty impairs broad access to or use of information to a far greater extent than

does copyright;[8/] and 3) that many proposals for new forms of protection are in

most respects indistinguishable from copyright.[9/]

6/ Indeed, several more or less mutually exclusive forms of protection are cur-
rently utilized. As discussed below, the Subcommittee believes that the public
interest can best be served by clarifying the availability and scope of these
forms, and, further, by providing for clear copyright protection. For a dis-
cussion of the economic impact of various forms of protection see Braunstein
et al., Economics of Property Rights as Applied to Computer Software and Data
Bases (1977) [NYU Report prepared under contract with CONTU].

7/ Such hybrid proposals generally combine elements of patent and copyright.
See, e.g., the various proposals found in Kindermann, M., Special Protection
Systems for Computer Programs, 7 I.I.C. Quarterly 301 (1976) and made to the
World Intellectual Property Organization (WIPO) in Kolle, "Computer Software
Protection -- Present Situation and Future Prospects," 13 Copyright (Mar. 1977)
72.

8/ For a comparison of the characteristics of the three major protective
mechanisms see the table and the comments thereto, pp. 13-15.

9/ See Kolle, supra, note 7.

A reading of the Act of 1976 and consideration of its legislative
history [10/] indicates that it was Congress' intent that computer programs be
within its ambit. The Software Subcommittee does not, of course, base its
conclusions solely upon Congressional intent. The Subcommittee does believe
that copyright is appropriate for computer programs and that, because of a
lack of precision in the new law, amendments, as indicated on pp. 16-23, are
necessary to state clearly that it encompasses computer programs and to
clarify the scope of copyright in such works.

From a policy standpoint, the worth of copyright protection is mani-
fest. As one commentator observed at the time the Register of Copyrights first
agreed to accept programs for copyright registration, [11/] the other forms of protec-
tion do little to encourage the dissemination of information. [12/] Any form of
protection for computer programs other than copyright would restrict society's

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10/ See P.L. 94-553, §§101, 102, 301 and accompanying House and Senate Reports.
The House report is particularly instructive. Concerning "literary works," in
which copyright subsists, it states: "The term does not connote any criterion
of literary merit or qualitative value...it includes...computer programs...."
H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54 (1976).

11/ From 1964 until January 1, 1978, the authority for seeking copyright in a
program has been, and will continue to be, the Register's letter of May 19, 1964.

12/ "Without copyright protection, the developer of a computer program is con-
fronted with a choice between carefully concealing the program or contributing
it to the public by disclosure. Neither alternative permits a large scale
distribution with the reasonable expectation of financial compensation. There
is a possibility of protecting computer programs under the law of unfair competi-
tion. The most likely source of protection, however, the doctrine of trade secrets,
would not seem capable of supporting a system of wide scale commercial distribution.
An idea will not be protected as a trade secret if examination of the marketed manu-
factured item would completely disclose it to the observer. Moreover, the require-
ment of secrecy is both stringent and unclearly delineated, and the remedies available
are limited." Note, Copyright Protection for Computer Programs, 64 Colum. L. Rev.
1274, 1298-1299 (1964).

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access to information to a greater extent than does copyright because such

other forms afford proprietors far greater monopoly power over their wares.

The most significant of these forms are (1) federal patent protec-

tion, (2) the various state laws of trade secrecy, and (3) the laws of unfair

competition. The use of patents to protect software gives rise to at least

three problems. In the first place, the availability of patent protection for
13/
programs is unclear. In the second place, even if available, only software

meeting the rigid standards of novelty and nonobviousness required by Title 35

of the United States Code could be patented. In a "patent-only" world, there-

fore, most programs would be unprotected and those which were patented would

receive protection -- extremely strong protection -- against use by others of

the underlying concepts or principles of operation. The requirements for copy-

right protection are much less stringent, which means that all such works will

be protected subject only to the requirement of originality. The strength of the

protection will be substantially less than that afforded by a patent. And, in the
14/
third place, unlike copyright, patents can be used to protect "processes," and

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13/ Recent decisions in the Court of Customs and Patent Appeals ordered the
award of patents to software (or softwarelike creations) over the strenuous
objection of two judges who held that Gottschalk v. Benson, 409 U.S. 63 (1972)
and Dann v. Johnston, 425 U.S. 219 (1976), cases in which the Supreme Court
found software to be ineligible for patent protection, precluded such protec-
tion. In re Chatfield, No. 76-551 and In re Noll, No. 74-541. The preceden-
tial value of these cases in the face of possible Supreme Court review seems
questionable, at best. In any event, the Patent and Trademark Office announced
on December 14, 1976, that it would rely on Benson rather than Noll or Chatfield
"since further review or clarification [of them] may be forthcoming." 954 O.G.
550, 312 P.T.C.J. at A-12. The Solicitor General has asked the Supreme
Court to review the decisions in Noll and Chatfield.

14/ Cf. Title 35 U.S.C. §101 and Benson, n. 13, supra, with P.L. 94-553, §102(b).

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under the patent system the independent development of the same work is an in-fringement. The independent creation of a work identical to a pre-existing copyrighted work does not infringe the copyright in that prior work.

The most widely used form of protection currently employed is trade secrecy.15/ Its deficiencies may be briefly listed:

1) Hostility to the free exchange of ideas -- A secret is just that--if maintained it may contribute to its owner's profit but not to the broad dissemination and interchange of information.

2) Inappropriateness with respect to general purpose programs having a potentially large market -- A trade secret by its very nature is something that its owner cannot distribute widely, since the distribution of each copy of the item in which a trade secret is asserted makes it increasingly likely that a breach in security and, therefore, loss of the secret will occur.

3) Ease of loss -- Trade secrecy protection generally be-comes unenforceable through disclosure of the confiden-tial process or formula to anyone outside the scope of the agreement between the entrepreneur and his custom-er(s). Whether such disclosure is intentional, inadver-tent, or caused by the "disclosee" is of no moment as far as the loss of the secret is concerned. Not only can a trade secret be lost through laxity on the part of its owner but tenacity can yield the same result, as where the record of the trial renders the "secret" public, and thus unenforceable.

4) Expense -- Each transaction involving a "secret" program requires substantial expenditures to main-tain its security, thereby adding considerably to the cost of the product.

15/ For a general discussion of the use of trade secrecy in software pro-tection, see Bender, Trade Secret Protection of Software, 38 Geo. Wash. L. Rev. 909 (1970) and 3 Computer L. Serv. §4-4, art. 2 (1975).

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5) Non-uniformity -- Each state is free to develop or
not to develop the doctrine as it sees fit. 16/
Moreover, as a judicially created concept there
is frequently ambiguity as to its existence and
scope.

Copyright, in contrast, serves well those interests that trade

secrecy serves poorly. Its protection is provided by uniform federal laws;

transaction costs associated with copyright are smaller than those associated

with other forms of protection for intellectual property; under Chapter 4 of

the new law copyright protection is difficult to lose; 17/ copyright is designed

to promote the dissemination of information and is particularly well-suited to

large scale distribution of intellectual property; and, unlike trade secret

protection, it does not inhibit development of the art. 18/

The common law doctrine of unfair competition also may be used to

protect software. It is based upon the principle that one may not appropriate

a competitor's skill, expenditures and labor and prohibits false advertising

or the "passing off" of another's work as one's own. Its utility is limited

by one of the same shortcomings as trade secrecy -- lack of national uniform-

ity -- and by the absence of one of copyright's strengths -- applicability

to third-party users as well as to parties to an original transaction. A

small body of federal law, developed around §43(a) of the Lanham Act, 19/

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16/ See Nycum, S.H. The Criminal Aspects of Computer Abuse: Applicability
of the State Penal Laws to Computer Abuse (1976); the article contains a
discussion of the development of trade secrecy protection in its civil and
criminal forms.

17/ See generally P.L. 94-553, §§405 & 406.

18/ See pp. 20 & 21, infra, for a discussion of the extent to which the new Copy-
right Act may affect the vitality of trade secrecy protection for computer programs.

19/ 15 U.S.C. §1125(a).

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has, to a certain extent, made unfair competition a federal doctrine

as well.[20/] This provides rights supplementary to those found in copyright

but because its scope is not as broad as copyright, it alone does not

offer sufficient protection. For example, the unauthorized copying of a

work for use, rather than resale, could be a copyright infringement with-

out amounting to unfair competition.

The Subcommittee, of course, is aware of some testimony received

by the Commission to the effect that copyright may be neither needed nor use-

ful in protecting programs. Two general contentions were made: first, that

the software industry is burgeoning in a market where the availability and

efficacy of legal protection is unclear and, second, that, since infringements

of programs are difficult to detect, enforcement of any law is rendered diffi-

cult.

As to the first contention, it is not true that the software explosion

has occurred in the absence of copyright. Rather, it has occurred in a world in

which an amorphous mix of trade secrecy, copyright, contractual and, perhaps,

patent protection has been available and has been employed by various proprietors.

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[20/] See Allison, J. R., "Private Cause of Action for Unfair Competition Under
the Lanham Act", 14 Am.Bus.L.J. 1 (1976).

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For example, although no cases dealing directly with copyright infringe-
ment in computer programs have been reported and, despite the fact that to
date only some 1300 programs have been registered with the Copyright Office,
a large number of general purpose programs available for sale or lease bear
copyright notices.[21] These notices have permitted copyright holders to
achieve settlements with suspected infringers without the necessity of insti-
tuting suit.[22] Thus, it seems that, in at least some cases affixation of
a copyright notice, without more, creates a level of protection in the market.
The real question is not whether the industry is burgeoning -- with or without
copyright -- but whether a change in the status quo that would decrease re-
liance on trade secrecy and other means of legal protection that restrict
access to these works is desirable, particularly in view of trends in the
industry toward the marketing of software products totally independently
from the machines themselves.

In short, as stated above, the Subcommittee believes that the
Commission's recommendations should be that the law specifically provide
for the protection of programs and that it do so in a manner designed
to avoid the rapid obsolescence which befell the 1909 Copyright Act. If
those recommendations lead to reduced reliance on trade secrecy protection,
they will undoubtedly have the beneficial effect of causing the products
of the industry to become more widely available at a lower unit price.

21/ Including, for example, all of the program products from IBM and the
Digital Equipment Corporation.

22/ Testimony of Daniel McCracken at the November, 1976 meeting and telephone
conversation with Elmer Galbi, Esq. of IBM.

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With respect to the second contention -- the asserted difficulty con-

cerning enforcement -- the possibility that violations of law may go undetected

cannot militate against the law's existence; it merely suggests that more

efficient means of enforcement need to be sought.

The following table shows, at a glance, some of the considerations weighed

by the Subcommittee in making its determination. We have included comments to those

items which are starred (*). In the Subcommittee's view, the answers to such economic

questions as the effect of protection on the market and the opportunity it creates

for an uncompetitive rate of return tend to show that, of the various potential modes

of protection, copyright has the smallest negative impact. The reports from the con-

tractors retained by the Commission to assess the economic impact of the several

modes of protection should shed more light on this important topic.[23]

Characteristics of Protective Mechanisms

	Copyright	Patent	Trade Secrecy
General Considerations			
1. National Uniformity	yes	yes	no
2. Protection Effective Upon	creation of work	successful prosecution of application	entrance into contractual relationship
3. Cost of Obtaining Protection	nil	moderate	moderate
4. Term of Protection	life plus 50 years or 75 years	17 years	possibility of both perpetual protection and termination at any time
* 5. Cost of Maintaining Protection	nil	nil	significant

23/ The NYU Report, supra, note 6, received May 5, 1977, suggests that copyright is superior to trade secrecy with respect to increased information in the market-place, the development of multi-purpose software, the reduction of duplication of efforts and diversification of available products.

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General Considerations (cont'd)	Copyright	Patent	Trade Secrecy
* 6. Cost of Enforcing Rights Against Violators	moderate	moderate	higher
7. Availability of (a) Statutory Damages (b) Attorney's Fees from Infringers	a. yes b. yes	a. no b. yes	a. no b. no
8. Protection Lost by	gross neglect	unsuccessful litigation	disclosure

Software Considerations, Including Effects of Subcommittee Proposals

	Copyright	Patent	Trade Secrecy
9. Consistency with other copyright areas	yes	no	no
* 10. Availability of protective mechanism for some programs	yes	unclear	yes
* 11. Universal Availability of protective mechanism for all programs	yes	no	no
12. "Process" protectable	no	yes	yes
13. Suited to Mass Distribution	yes	yes	no

COMMENTS WITH RESPECT TO STARRED ITEMS IN THE TABLE

Item No.

5.   Once copyright or patent is secured, it costs little or nothing to keep it in force; on the other hand, expensive security measures must be taken to avoid losing a trade secret. The cost of this security is, of course, passed on to the user.

6.   Copyright and patent infringers in some instances can be persuaded to comply without the institution of a lawsuit. If litigation is necessary, it may be expensive, but in copyright and patent cases attorney's fees may be awarded to successful plaintiffs. At trial the proprietor bears the burden of proving that the trade secret is valid; in patent cases there is a presumption of validity and in copyright actions a registration

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certificate is prima facie evidence of the copyright's validity. The proof of the validity of a trade secret may be expensive and difficult, as it almost necessarily involves the retention of expert witnesses. Although such witnesses may be needed in copyright and patent suits in those cases there will have been at least some compliance with federal law regarding public notice of claimed rights before the lawsuit is initiated. A suit to enforce a trade secret, even though successful, may destroy the secret if it is offered into evidence and becomes part of the public record of the trial.

10. As of the present, doubt exists whether programs are proper subjects for patent protection. (See p. 8, supra).

11. Even if programs are patentable, only those which are truly novel and nonobvious will be protected. Trade secrecy is, of course, unavailable when the contents of a program have been disclosed.

IV. How Copyright?

The object of any amendments to the copyright law should be to clarify the rights of the holder of copyright in a computer program and of its users. The need for such clarification is created by the way in which programs are used. In the absence of §117[24] the loading or inputting of a program into a computer would constitute the preparation of a copy. Section 106(1) of the law provides that copying is the exclusive right of the copyright owner. Thus, any use of programs by strangers would constitute infringements unless language of the type proposed below is adopted to replace the current §117.

The current copyright practice would be but slightly affected if the Subcommittee's recommendations were adopted. Indeed, it is believed that the suggested changes will lead not only to satisfactory protection against the misappropriation of software but also to increased consumer and competitor knowledge concerning the nature of the goods in the market.

24/ The Subcommittee anticipates that any Congressional action with respect to any computer-related Commission recommendations will include the deletion of the "interim" or "moratorium" provisions of §117.

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1. **Proposed New Definition:**

     The Subcommittee believes that it would be appropriate to include

among the definitions in §101 the definition of a computer program. We

suggest the following language:

> "A 'computer program' is a fixation of a series of state-
> ments or instructions to be used in conjunction with a
> computer in order to bring about a certain result."

     A statutory definition is needed if, as proposed, a new section

pertaining to computer programs is to be included in the Copyright Act. There

are three reasons why this definition is useful. First, since it lacks data

processing jargon and phrases concerning the way in which programs are used,

it is not tied to current technology. The Subcommittee believes that changes

in the way computers work should not change the extent to which copyright sub-

sists in programs. The definitions of "literary works" and "copies" now

found in §101 preclude the necessity of describing in the definition the forms

or media in which programs may be fixed. And, third, no attempt need be made in

the definition to address explicitly the program/algorithm version of the idea/

expression distinction. This distinction, which has caused great uncertainty

in the world of copyright, is not, of course, unimportant. However no further

statutory elucidation is required because the new law already deals with it

adequately.

> §102(b) now provides that:
>
> "In no case does copyright protection for an
> original work of authorship extend to any idea,
> procedure, process, system, method of operation,
> concept, principle, or discovery, regardless of
> the form in which it is described, explained,
> illustrated or embodied in such work."

That portion of the House report which deals with that provision contains

the following passage:

> "Some concern has been expressed lest copyright in
> computer programs should extend protection to the
> methodology or processes adopted by the programmer,
> rather, than merely to the 'writings' expressing
> his ideas. Section 102(b) is intended among other
> things, to make clear that the expression adopted
> by the programmer is the copyrightable element in
> a computer program, and that the actual processes
> or methods embodied in the program are not within
> the scope of the copyright law." 25/

Also important is the House's statement of the content of the term "literary

works" to which copyright protection extends:

> "It also includes . . . computer programs to the
> extent that they incorporate authorship in the
> programmer's expression of original ideas, as
> distinguished from the ideas themselves."
> [Emphasis supplied]. 26/

These principles have been employed by courts in disposing of copy-

right cases involving the idea/expression issue.²⁷ In each instance, where

the question arose, the court made clear that copyright protection cannot

subsist in works capable of being expressed in only a particular and limited

manner on the grounds that free access to the expression is necessary in

order to utilize and convey the unprotectable idea. Any work designed to

control the operation of a computer that can be expressed only in a partic-

ular and limited manner is no more subject to exclusivity under the aegis

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25/ H.R. Rep. No. 1476, 94th Cong., 2nd Sess. 57 (1976).

26/ H.R. Rep. No. 1476, 94th Cong., 2nd Sess. 54 (1976).

27/ See Baker v. Selden, 101 U.S. 99 (1879); Morrissey v. Procter & Gamble Co.,
379 F.2d 675 (1st Cir. 1967); Crume v. Pacific Mutual Life Ins. Co., 140 F.2d
182 (7th Cir. 1944).

                                         28/
of copyright than is a method of accounting,   a set of Social Security Account
                    29/   30/
Number Sweepstakes Rules   or the plans for a company's reorganization.

It should be emphasized that the protection which would be afforded pro-

grams by copyright would not serve to block the use of a program's underlying con-

cepts by others since copyright never protects ideas, but only the expression there-

of. When specific computer instructions, even though previously copyrighted,

are the only and essential means of accomplishing a given task, their later

use by another will not amount to an infringement. In discussing an insurance

company's use of a lawyer's copyrighted forms, a federal court of appeals stated
                                              31/
in Continental Casualty Co. v. Beardsley:

> "the use of specific language...may be so essential
> to accomplish a desired result and so integrated with
> the use of a...conception that the proper standard of
> infringement is one which will protect as far as pos-
> sible the copyrighted language and yet allow the free
> use of the thought beneath the language. The evidence
> here shows that [the company] insofar as it has used
> the language of [the lawyer's] forms has done so only
> incidental to its use of the underlying idea.... In
> so doing it has not infringed." [Empahsis added].

In the opinion of the Subcommittee, the above underscored language

in Beardsley indicates that copyright protection for programs would indeed be

"thin," because in the programming field the use of specific language --

instructions -- may, in some instances, be so basic, essential and inte-

grated with the underlying idea that use of the same language would not

constitute infringement.

28/ Baker v. Selden, 101 U.S. 99 (1879).

29/ Morrissey v. Procter & Gamble Co., 379 F.2d 675 (1st Cir. 1967).

30/ Crume v. Pacific Mutual Life Ins. Co., 140 F.2d 182 (7th Cir. 1944).

31/ 253 F.2d 702 (2nd Cir. 1958). See, also, Harcourt, Brace & World, Inc.
v. Graphic Controls Corp., 329 F.Supp. 517 (S.D.N.Y. 1971).

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2. Proposed New §117 (to replace §117 as enacted):

"§117: Limitations on Exclusive Rights: Computer Programs

Notwithstanding the provisions of §106, it is not an infringement
for the rightful possessor of a copy of a computer program to
make or authorize the making of another copy of that computer
program provided:

(1)   that such new copy is created as an essential step
in the utilization of the computer program in con-
junction with a machine and that it is used in no
other manner, or

(2)   that such new copy is for archival purposes only
and that all archival copies are destroyed in the
event that continued possession of the computer
program should cease to be rightful.

Any copies prepared in accordance with the provisions of this
section may be leased, sold, or otherwise transferred by the
person making such copies only as part of the lease, sale, or
other transfer of all rights in the program."

The proposed §117(1) is designed to make it clear that the "inputting"

32/

of a program by a rightful possessor is not an infringement.   Section 117(2) is

designed to permit a user to prepare a copy for storage as insurance against loss

in the event of destruction of the copy rightfully acquired.   This section

is worded in a manner similar to several already existing limitation

33/

sections.   Provisos (1) and (2) serve to make it clear that blanket permis-

sion to copy is not granted to an intended user and that any copying by a

wrongful possessor is a violation of §106(1).   Wrongful possession would

32/   The Whitford Report, note 2, supra, reflects a similar result.   Its fifth
recommendation — declaring unauthorized use an infringement — is redundant if
the loading of a program into a computer is the preparation of a copy.   If, as
seems clear, U.S. copyright law provides in effect that loading is copying, then,
no separate "use" prohibition is necessary.   Many interested parties have suggested
that the law should provide the owner of copyright in a computer program with a
right similar to the right of public performance found in §106(4) of the new law.
Because all use of a program requires the preparation of a copy, the Subcommittee
is of the belief that no "use" right, beyond that in the proposed §117, be recom-
mended.   Simply put, by regulating the copying of a program, its use is also
regulated.

33/   Cf.   §§107-109.

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include but not be limited to,

    (a) possession of a "pirate" copy,
    (b) possession of a stolen but "non-pirate" copy,
    (c) retention of any copy after the expiration of
        a period of rightful possession, or
    (d) retention of any copy after transferring all
        rights in a program to another.

Copying by a rightful possessor outside the scope of the provisos would also be barred. Thus, in the absence of explicit authorization from the copyright owner, the preparation by the user of multiple copies, whether for internal distribution or transmission to others would be an infringement.

It should be noted that the conversion of a program from one computer "language," such as COBOL, to another, such as FORTRAN, would amount to the preparation of a derivative work and would remain the exclusive right of the copyright owner.

Owners of copyrights in programs of which copies are <u>sold</u> could in no way restrain the further alienation of such copies, but their vendees could not make and vend or retain additional copies without infringing the copyright. The utilization of a pirate copy would involve two infringements -- first, the preparation of the pirate copy and second, its use in which another copy would necessarily be prepared.

3. <u>Preemption</u>.

Section 301 is designed to make it clear that trade secret protection is preempted to the extent that such protection is not "different in kind from copyright infringement."[34] Thus trade secrecy protection could not be asserted where its purpose was to prevent the copying of a work. After January 1, 1978, copyright will subsist in all programs from the time of their first fixation in tangible media of expression. The proprietor will be required to seek compensation for misuse of the program through an action against the infringer for statutory damages or actual damages

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[34] H.R. Rep. No. 1476, 94th Cong., 2nd Sess. 132 (1976).

and profits, remedies to which he, as all other copyright owners, would be entitled.
Simply put, the proprietor who seeks revenues from users of his copyrighted work --
be it a book, photograph or computer program -- ought not to be entitled to allege
that his work, although available to users, is somehow "secret," in the same way
that a carefully guarded formulation for a soft drink syrup may be.

Any resultant reduction in the use of trade secrecy should have at least
two salutary effects. It should reduce the number of occasions when a programmer
has to repeat the prior effort of another because that prior effort is kept secret.
It should, according to the NYU study,[35/] reduce the social waste inherent under
trade secrecy which results when new programs are made unnecessarily complex
so that their essence is difficult for even skilled readers to discern. None
of this, however, should be taken as suggesting that no program may ever be
protected as a trade secret. Nothing in this proposal compels a programmer to
publish his work. Nor would the programmer be prevented from entering into
contracts designed to restrict disclosure of the program. However, as seems
self evident, trade secrecy could not be relied upon if a program were widely
marketed or otherwise broadly distributed.

4. Term of Protection.

Because all other works of authorship receive the period of protec-
tion provided by §302 of the 1976 Act, and because the scope of protection
afforded programs by copyright may be relatively "thin,"[36/] there seems to be
no persuasive reason to add further complexity to the law by altering the

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35/ Supra, note 6.

36/ Supra, pp. 16-18.

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uniform term of protection for these works. Although most programs may have
shorter useful lives than the full term provided by the statute,[37] this also
is true of other works, such as directories, which receive full-term protec-
tion. With regard to all types of works, it is the exceptional one that has
a useful life of several decades, but it is exactly those works that the lengthy
periods of protection in §302 were enacted to protect. It should also be noted
that no one is harmed when short-lived works remain protected beyond their brief
periods of utility. For example, a telephone directory published in 1978 will
remain under copyright through 2053 with no apparent adverse effects upon society.

5. Suggestions Concerning Regulations.

The Subcommittee recommends that notice, deposit and registration
regulations be promulgated by the Register of Copyrights. However, certain
general comments seem in order.

Copyright notice in the form prescribed in §401(b) should be required
on all formats in which a program is marketed.[38] On programs capable of being read
by the unaided eye such notice should appear prior to the list of instructions
that comprise the program. Those programs which can be read only with the aid
of a machine or device should contain notice in the medium of fixation such that
the contents of the program cannot be listed without reproducing the notice
in the position just described. Further, containers in which copies of such
"machine-readable" programs are sold, leased or transported should bear plain

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37/ In addition, the Commission received testimony that operating system soft-
ware and programs, such as DIALOG, used in conjunction with data bases, often
have useful lives in excess of ten years.

38/ Such notice must consist of the word "Copyright," the abbreviation "Copr."
or the symbol © together with the year of first publication and the name of
the copyright owner.

notice as should such devices as 1) reels upon which magnetic tape is wound

or 2) semiconductor chips in which programs are stored.

With respect to deposit and registration requirements, the Subcommit-

tee believes that regulations should promote public access to computer programs

while being fluid enough to accommodate future changes in software technology.

Several options appear available. A system of "temporary" deposit, similar

to the practice followed with respect to motion pictures, might be appro-

priate. In the alternative, permanent deposit of complete copies of

original versions of programs could be required, with descriptions rather

than complete copies of amended versions being filed thereafter. In any

event, such requirements can best be established by the Copyright Office.

V. Postscript

A previous version of this report was discussed at the Commission

meetings in February and April, 1977. On those occasions there were expres-

sions of reservations about the Subcommittee's recommendations. This draft

of the report includes changes that respond to comments and criticism made

at those meetings. In addition, it is anticipated that dissenting views will

accompany this report when it is publicly circulated for comment.

Substantive issues discussed were:

1. Whether, as a policy matter, software should
   be protected.

2. Whether the intent underlying the copyright
   clause of the Constitution encompasses
   software.

3. Whether the inclusion of software in the scope
   of copyright depreciates the nation's cultural
   heritage.

4. Whether new technologies, deserving of protec-
   tion, should be protected by a new law other
   than copyright.

Concern was expressed with respect to the Software Subcommittee's

report regarding:

a) Why witnesses from the computer industry
   but not representatives of authors and the
   public interest have been heard.

b) Whether the Subcommittee had considered
   public policy issues in making its deter-
   minations.

c) How the Subcommittee reacted to a division
   among software witnesses that appeared
   to be eleven for copyright protection and
   sixteen for other forms of protection.

The current version of this report is responsive to several of these

items. The rationale for protection in whatever form is outlined in Part I,

entitled "Why Protection?" and in the NYU report. The constitutional question

is discussed in note 3. The policy issues which are the foundation upon which

the Subcommittee based its report are discussed in varying detail at pages 5,

7-10, and 13-15. A new form of protection is not recommended because programs

are instructions fixed in a tangible medium of expression and, by that token,

presently copyrightable and because Congress is likely to prove unreceptive

to proposals to protect each new form of expression with a separate special

statute. In a recent study for the World Intellectual Property Organization

(WIPO) the author, who generally proposes that a new form of protection be

created, notes that

"in a number of countries it would already be
possible to give such protection [to programs]
on the basis of current legislation on copy-
right...and consequently special legislation
would not be necessary. In various countries,
including the United States...there would seem
to be no particular desire to set up special
provisions to protect software." 39/
(Emphasis added).

39/ Kolle, Computer Software Protection--Present Situation and Future Prospects,
    Copyright, March, 1977, 72.

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Turning to the asserted division of the software witnesses, it should be noted that it was not precisely 11 for copyright and 16 for something else. In 1976, the Commission received oral and written testimony from 20 witnesses representing 18 organizations. Their views may be interpreted as follows: 11 favored copyright, 3 patent, 3 trade secrecy, 8 had no preference and 2 perceived no need for protection. Since several persons supported copyright and one or more other forms of protection, the same person may be counted in the final tabulation as having "cast" his "votes" both "for" and "against" copyright. Finally, of course, the Subcommittee has based its recommendations not upon a headcount but upon a consideration of all the factors that bear on the issues at hand. It believes that the needs of all parties and the public may best be served by amending the Copyright Act as it suggests.

With respect to the nature of the witnesses, it should be pointed out that notice of all Commission meetings, as well as invitations to interested parties, have been published in the Federal Register and in more than a dozen press releases which were sent to the addressees on a mailing list currently containing more than 400 names. The Author's League was specifically asked to encourage individual authors to contribute to the proceedings of the Commission. Although some public interest organizations apparently screen the Federal Register for items of interest, the Commission's work has apparently not aroused interest within such public interest and consumer groups. To ensure that all viewpoints are made known, the Commission has entered into two contracts with

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public interest organizations to provide additional input of the type not yet received. The results of those studies should be available by July, 1977.

The Subcommittee believes that affording copyright to software could not constitute a threat to cultural values. That public perceptions, beliefs and actions might vary depending upon whether computer programs are in or out of copyright seems rather unlikely. Works of both great and small aesthetic value should be similarly protected lest the government acquire the power to assess the merits of a work and choose only those works which in its view are "good enough" for copyright. The copyright law, applying as it does to all forms of expression, should be broad enough to shelter the works of Nobel laureates and computer programmers without causing any confusion about which is which.

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ADDITIONAL VIEWS ON COMPUTER SOFTWARE

John Hersey

This "additional view" will argue that computer programs should not be secured by copyright. It will center its argument on the question whether computer programs qualify, under the Constitutional meaning, as "works of authorship" which may be protected by copyright.

It will suggest some ways in which the protection of computer programs by copyright might have an undesirable impact on the national culture.

It will urge the Commission to consider whether any additional protection for programs is in fact needed; and if it decides that it is, to consider the option of a new form of protection, outside copyright. A draft of a model statute, expressing that option, is attached.

The length of this paper is regrettable, but since it is the only CONTU response that opposes the Software Subcommittee Report as a whole, detailed discussion is, alas, obligatory.

ARE PROGRAMS WRITINGS?

The premise of the Software Subcommittee Report (p. 6), upon which all of its conclusions stand or fall -- "that programs are not different from other works now subject to copyright, and, therefore, do not require a separate form of protection" -- is, in this view, false. Programs are profoundly different from the various forms of "works of authorship" secured under the Constitution by copyright.

All computer programs go through various stages of development. Each program may indeed be considered a writing of an author -- up to a certain point in that development; beyond this point, however, the same

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program is embodied in material form and becomes <u>a mechanical device</u>, which is

engaged in the computer to become an essential part of a mechanical process.

Thus the computer program is something strikingly new in our culture:

something which is, at different times, both a writing and <u>a mechanical device</u>.

The stages of development of a program are: a definition, in eye-legible

form, of the program's task or function; a description; a listing of the program's

steps and/or their expression in flow charts; the translations of these steps

into a "source code," often written in a high-level programming language such as

FORTRAN or COBOL; the transformation of this source code within the computer,

through intervention of a so-called compiler or assembler program (which has

itself previously gone through all these stages), into an "object code."

This last is most often physically embodied, in the present state of technology,

in punched cards, magnetic discs, magnetic tape, or silicon chips.

Every program comes to fruition in this object stage. Every program

has but one purpose and use — one object: to control the electrical impulses

of a computer in such a particular way as to carry out a prescribed task or

operation. In its object form it does not describe or give directions for

mechanical work. It does the work.

An argument commonly made in support of the copyrightability of computer

programs is that they are just like ordinary printed (and obviously copyright-

able) lists of instructions for mechanical work. The Software Subcommittee

calls a program (p. 3) "a writing which sets forth instructions or sets of

instructions." But this analogy, or metaphor, does not hold up. Descriptions

and printed instructions tell human beings how to use materials or machinery

to produce desired results. In the case of computer programs, <u>the instructions</u>

<u>themselves</u> become an essential part of the machinery that produces the results.

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They may become (in chip or hardwire form) a permanent part of the actual machinery; or they may become interchangeable parts, or tools, insertable and removable from the machine. In whatever material form, the object phase of the program enters into the mechanical process. The former language of the instructions is converted into a device commanding a series of electrical impulses which -- to use a slightly inexact layman's image — set and operate the switches of the computer in such order as to produce the desired result.

At different times, then, a given program is both "source" and "object," both a writing and a mechanical tool or machine part. Printed instructions tell how to do; programs both tell how and do. The language used to describe and discuss computer programs commonly express this latter, active, functional phase, not the "writing" phase. For example, an earlier draft of CONTU's Data Base Subcommittee, discussing automated data bases, spoke of a "program which does the searching and retrieving" -- note the operative verb, "does." It was not said that the program "describes" or "gives instructions" for functions of search and retrieval. It "does" them. This is the mechanical fact. A true writing has never before done work in this way -- no matter how fervently many an author may have wished his words could "do" something.

Copyrightability of Parts but Not of the Whole; Inseparability of the Parts.

The Software Subcommittee Report (p. 4) posits that with computer programs there are "three different phenomena." (How these phenomena obtain, as the Report says they do, with "all forms of creative endeavor" is a mystery.)

These are said to be:

> d) A description of the activity (process);
>
> 2) The activity (process) itself;
>
> 3) The results of the activity (process).

The report suggests that anything that is a description is entitled to copyright. But what the Report fails to make clear is that with a computer program, item (1) becomes an essential part of item (2). The "activity (process)" cannot take place without the actual mechanical intervention of the objectified "description." The two are not, in real life, separable.

The first stages of a computer program -- definition, description, flow charts, listing of steps, all in human-readable form — might be considered copyrightable without any change in the present law, <u>providing the program developer chose to publish them, to affix notice, and to deposit copies with the Library of Congress</u>; though it is fairly clear, from testimony we have heard, that program developers would like not to have to do this, for fear of revealing their underlying ideas.

But when it comes to the object, or operative, stage of the program, when it becomes indistinguishable from a machine part and does work -- all resemblance to a "writing" or "description" has been lost. It is a machine tool. In use it has become part of a mechanical process. It is not copyrightable.

If we take the program as a whole, we see that it has both copyrightable and uncopyrightable parts or stages. The latter would preclude the possibility of copyrighting the whole. "In no case," Section 102(b) of the 1976 Act says, "does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of

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operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such a work."

The essential fact here (one which needs heavy emphasis) is that computer programs have to be treated as a whole. For purposes of protection, the stages cannot conveniently be separated. Computer developers offer on the market a program package which, besides explanatory materials, contains the program itself, either in the form of printed listings (usually the source program, which in printed form might be copyrightable) or, more often, in the form of punched cards, magnetic tape, discs, chips, or hardware (object program, uncopyrightable), or both at once. In commerce any given program is inextricably both a writing and a mechanical device. Indeed, the only really valuable stage, for use or lease, is the part that is a tool or machine part, the object program, but in order to protect the intellectual effort and inventiveness that went into this property, both stages would need to be protected at once.

The Software Subcommittee (p. 4, fn. 3) recommends leaving to the courts the task of drawing lines between the copyrightable and uncopyrightable forms of a program. For the proprietor, this is a most hazardous suggestion. If the courts decided that copyright could constitutionally subsist in the human9readable stages of a program, but not in the object, or mechanical, phase, then copyright protection for programs as a whole would become largely meaningless, and of no practical use to the industry, since it is the object phase of a program that has commercial value.

A Different Order of Work

The fact that a program is designed to do labor, and does it, makes it a different order of work from all forms of "writing" in which copyright has previously subsisted. There could be no more dramatic way of demonstrating

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this than to do what the representatives of the Computer and Business Equip9

ment Manufacturers Association (CBEMA§ have urged CONTU, in their testimony,

to recommend -- namely, that Section. 102 of the Act be amended to add computer

programs (and data bases to the list of "original works of authorship"

entitled to copyright:

1) literary works;
2) musical works, including any accompanying words;
3) dramatic works, including any accompanying music;
4) pantomimes and choreographic works;
5) pictorial, graphic, and sculptural works;
6) motion pictures and other audiovisual works;
7) sound recordings;
8) computer programs;
9) data bases.

The startling gap between items (7) and (8) in this list is not simply

a cultural matter -- which indeed it most hair9raisingly is. It is also a

matter of orders of animals.

The Software Subcommittee Report does not urge adding these categories.

It contemplates (p. 16) defining computer programs as "literary works" -9 and

this (considering the program's object, or mechanical phase) is, in this view,

even more hair9raising. More on this below.

It may be argued that the punched cards, discs, tapes, or chips of

computer programs are "like" sound recordings, which are secured by copyright.

But this analogy is also false. A closer analogy, in functional terms, would

be between the embodiments of a computer program (magnetized discs, tapes,

chips) and such mechanical devices as the magnetized cards which operate

locks or give access to automated bank tellers.

The functions of computer programs are fundamentally and absolutely

different in nature from those of sound recordings. The recording produces

for the human ear the sounds that were fed into it and so is simply a medium

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of transmission of the means of expression of the writing of the author. The

program, on the other hand, manipulates the processes of the computer, doing

electrical work which has only a functional, mechanical relationship to the

writing of the program's author.

And the nature of the machine that plays the sound recording is

fundamentally and absolutely different from that of the machine that uses

software. The record player has as its sole purpose the performance of the

writing of the author in its audible form. The computer may in rare instances

serve as a storage and transmission medium for writings (but different writings

from those of the computer programmer -- i.e., data bases) in their original

and entire text -- in which cases these writings can be adequately secured

at both ends of the transaction by the present copyright law; but in the

overwhelming majority of cases its purposes are precisely to use programs

to transform, to manipulate, to select, to edit, to search and find, to

compile, to control and operate computers and a vast array of other machines

and systems -- with a result that the original writing of the computer

programmer is nowhere to be found in recognizable form, because it has been

converted into a mechanical device that does these sorts of work. It is

obvious that the means of expression of the original work -- that which

copyright is supposed to protect -- is totally lost in the final stage of

the computer program.

The above discussion of sound recordings and playing machines could

be equally applied to motion picture film in relation to the projector, or

to any other original work of authorship, presently copyrightable, which

can be "perceived, reproduced, or otherwise communicated . . . with the

aid of a machine or device."

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The Issue of Communication

The above distinction needs to be examined with great care, because the discs, tapes, and chips of computer programs superficially seem very much like the discs and tapes of sound recordings, motion picture film, or video tape.

We take it as a basic principle that copyright should subsist in any original work of authorship that is fixed in any way (including piano rolls, records, video tapes, etc.) which communicates its means of expression.

But a program, once it enters a computer in its object phase, does not communicate information of its own, intelligible to a human being. It utters work. In its object phase its direct product is not communication but electrical work. It is purely and simply a mechanical substitute for human labor.

In cases where computer programs manipulate data bases, as for instance to select or edit material for a user, the resulting output may give the impression that programs do at least sometimes communicate with human beings. But it must be carefully borne in mind that the output of such processes is not communication of the means of expression of computer programs, but is a product derived from the data base by the electrial work of the program. It is, in other words, merely a result of the program's "activity (process)" -- the third phenomenon of the Subcommittee Report, cited on p. 3 above -- and has no bearing on the copyrightability or non-copyrightability of computer programs in their object phase.

The direct product of a sound recording, when it is put in a record player, is the sound of music — the writing of the author in its audible form. Of film, it is a combination of picture and sound -- the writing of the author in its visible and audible forms. Of video tape, the same. But the direct product of a computer program is a series of electrical impulses which operate a machine, a computer. The first three communicate with human beings. The computer program in its object phase does not.

The Software Subcommittee Report (p. 4, fn. 3) says, "To the untrained reader the object code does seem to lack communicative potential. That could also be said, however, of such clearly copyrightable works as a book in Sanskrit or a mathematical table of numbers."

The specious implication of these words is that trained readers do read object codes; in general practice they do notW If they did so, it would only be in the sense that a skilled electronic technician might be able to "read" a television circuit. Sanskrit is the classical language of India, meant to be read by literate human beings; mathematical tables may communicate vividly to statisticians, engineers, and others. It is clear that a computer program is not designed to be read by anyone; it is designed to do electronic work that substitutes for the very much greater human labor that would be required to get the desired mechanical result.

The Software Subcommittee Report recommends affording copyright protection to something that starts as a writing but ends as a labor-saving mechanical device.

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A Spade by Any Other Name

In the act of wedging the purely mechanical object phase of computer programs into copyright, the Software Subcommittee has been obliged at various stages to resort to certain extraordinary euphemisms. One of them is, in this view, particularly shocking.

We have already touched on it -- the defining of computer programs as "literary works" (p. 16).

The early phases of programs, intelligible to human eyes, must be admitted to this category, which has, over the years, been stretched to include lists, code words, and so on. But it boggles the mind to think of the magnetized discs and tapes, the punched cards, and the silicon chips of programs in their object phase as "literary works."

A silicon chip is a remarkable little package, a half inch or less square, which consists of a number of laminated layers of printed electrical circuits, miniaturized versions of such printed circuits as are to be found in television sets, radios, and many other solid-state electronic machines. This mechanical device is here blithely defined as a "literary work."

Bearing in mind the categorical differences, elucidated above, between the tapes, discs, chips, and hardwire forms of computer programs, on the one hand, and the discs and tapes of sound recordings, motion picture film, and video tape, on the other, it is nevertheless necessary in this context, in order to stress the absurdity of this misnomer, to point out that neither the 1909 nor the 1976 copyright law called sound recordings "musical works" or motion picture or television film "dramatic works." (See section 102). Yet these chips, discs, and tapes are "literary works."

This straining of language, and other instances of it, simply point up the difficulty--the polluting and dehumanizing effects--of forcing into copyright something which i , at different times, a writing and a mechanical device.

CULTURAL ISSUES

CONTU has a duty to consider the impact of its recommendations, not only on proprietors and users of information systems, but also on the public. Specifically, considering the long history of copyright's bond to the written word (in both works of literature and practical works), and its bond to musical composition, to painting and sculpture, to the theater, to dance, to film, we must weigh the impact of what we recommend upon the national culture. For copyright has always been a mainstay and guarantee of the creative wellsprings of the culture.

We have often said in Commission discussion that the dual purposes of copyright are the encouragement of creative work and the wide scattering of its fruits. The sanctioning of copyright protection for this new thing, which is both a writing and a mechanical device, would, in this view, tend to dampen the first purpose. Its impact on the creative community would be bound to be discouraging. Furthermore, its indirect impact on consumers of all forms of creative work would, in this view, be unfortunate.

Communication--Human and Mechanical

The aim of all "writing," be it for art or for use, is communication. Up to this time, copyright has always protected the means of expression of various forms of "writing" which were perceived, in every case, by the human sense for which they were intended: written words by the human eye,

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music by the ear, paintings by the eye, and so on. Here, for the first time,
the protection of copyright would be offered to a "communication" with a
machine.

This pollution of copyrighted "writings" with units of mechanical
work would affect not only the creators but also the consumers of the culture.
Placed beside such traditional end products as books, plays, dance, film, and
music, under the aegis of copyright, what end products of computer programs
would we find?

The overwhelming majority of program applications are mechanical and
commercial: the monitoring of an assembly line in a factory; three parts in
every automobile; a micro-computer soon, we are told, in every telephone head-
set; the controls of a microwave oven; the aiming devices of a weapons system;
the coordination of approach patterns at an airport. An entire branch of the
program industry is devoted to systems software—new techniques for more effi-
cient use of machines, for more efficient industrial processing.

Progress is progress, and we can guess that we must have all these
products of human ingenuity in order to keep one jump ahead of entropy. But
a definite danger to the quality of life comes with a blurring and merging of
human and mechanical communication.

This danger is not simply to high culture; quite the contrary. This
is not an aesthetic issue; this is not a matter of distinctions between Nobel
laureates and computer programmers (Report, p. 26). It is much more basic.
It goes to the distinction between human beings and machines.

Various forces—among them, forces arising from new technologies of
communication—have for some time been at work in industrialized societies to

blur the primary medium of human communication, the language people use in everyday speech. George Orwell, in his essay "Politics and the English Language,"[1] showed how far the confusion of meaning of many common words has recently gone, and how dangerous these confusions are. The nation has only just begun to recover from a scarring episode of history, of which it may well be said that the characteristic evil was the misleading use of language in high places. Before he died, the poet W. H. Auden was asked by a reporter for The New York Times what the political duty of a poet is, and his answer expressed with great economy the dangers inherent in such blurrings: "As a poet . . . there is only one political duty, and that is to defend the language from corruption. And that is particularly serious now. It's being so quickly corrupted. When it's corrupted, people lose faith in what they hear, and this leads to violence."

All this is not to suggest that the act of calling a mechanical device a "literary work" (even though this is obviously a corruption of language) contains, in itself, any such grave political or societal dangers. What is intended here is to suggest that official sanction of a correspondence, under law, between communication with human beings and "communication" with machines would tend to reinforce, to some extent, two cultural phenomena that are potentially dangerous--namely, the progressive dehumanization and commercialization of the culture, taken in its broadest and most widely disseminated sense; and a progressive blurring of language that seems to be a concomitant of just such rationalizations as the one we are dealing with here.

1/ From Shooting an Elephant and Other Essays, by George Orwell; New York, Harcourt Brace Jovanovich.

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The Individual Creator and the Corporation

While it has always been the case that corporate entities could be copyright proprietors, the picture one gets, where rights in computer programs are concerned, is that the proprietor will almost invariably be corporate. If there is an individual "author," it will be an author for hire, whose creativity is in strict harness and whose property rights are nonexistent.

The sheer bigness of the corporate enterprise in computers is staggering. According to testimony by Peter McCloskey, President of CBEMA, the combined revenues of the 42 members of that association of manufacturers of computers and related business equipment rose last year to 32.7 billion dollars; as to software, we heard at one point an estimate of 17 billion dollars' worth of it in the next three years. The art is growing and changing with dazzling speed. In his testimony Ralph Gommery of IBM suggested, with perhaps a pinch of hyperbole, that if the automobile industry had progressed on the same curve as computers in the last 15 years, we would now have been able to buy for $20 a self-steering car that would attain speeds up to 500 m.p.h. and be able to drive the length of California on one gallon of gasoline. Peter Weiner of RAND gave us the vision of a "computer-based" society a quarter of a century hence, with terminals in every home for all sorts of mechanical and communications aids.

Loading all this expanding technology into the field of copyright would be bound to bring a progressive change in emphasis, and the great new dominant interests would all be corporate. The Constitutional aim of encouraging individual "authors" would have, relatively, less and less weight.

The massive impact of corporate interests on individual creators has already been felt in the book publishing industry. The extraordinary series of corporate acquisitions and mergers in recent years[3] has been having some disturbing and some disastrous effects on individual authors. A few corporate conglomerates have granted their subsidiary publishing houses autonomy, but some have not. The pressure is on to publish "big" books, and one consequence seems that more books but fewer titles are sold each year. There is a danger that the control by large trade publishers of large paperback houses will place smaller independent trade publishers, and their authors, at a disadvantage in placing paperback rights, particularly those of modest monetary value. One dire example of conglomerate pressure: a publishing house with a large output of textbooks was recently bought by a conglomerate with such diverse interests as ships and frozen foods. Down from the conglomerate came a directive on publishing efficiency, one stricture of which was that no book was to be kept in print, or published even if contracted for, if it has not sold, or would

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3/ For instance:
     RCA acquired Random House, which already owned Knopf, Pantheon, Ballantine books, and other firms.
     CBS acquired Holt, Rinehart & Winston and W. B. Saunders; Popular Library (mass market paperbacks); Fawcett Publishing (mass market paperbacks, Crest, Gold Medal); and 30 magazines.
     Gulf & Western (which had previously taken over Paramount Pictures) acquired Simon & Schuster and Pocket Books.
     ITT acquired Howard W. Sams, which in turn owned The Bobbs-Merrill Company.
     Doubleday, the largest U.S. trade publisher, acquired Dell, the second-largest mass-market paperback house; Dell also publishes several magazines and, through Delacorte and Dial, hard-cover books. Doubleday owns the Literary Guild and other book clubs and many other media enterprises.
     Los Angeles Times acquired New American Library (paperbacks).
     Penguin acquired Viking.
     Time, Inc., acquired Little, Brown.
     Scott Foresman, one of the largest educational houses, owns Morrow and Silver Burdett--the latter also publishes textbooks.

not promise to sell, X number of copies a year. Result: a line of 119

volumes in a paperback series by some of the nation's most distinguished

historians, most of which had been having steady sales of two or three

thousand copies a year, was cut off dead, with no considerations of the

worth of the works beyond their sales figures.

This is bad trouble for our society, and the soul of the trouble

is in the type of corporate motive (desirable from the stockholders' view-

point) that is most aptly symbolized by computer programs that are designed

to increase industrial and commercial efficiency. These can distinguish

between good and bad sales figures but are never programmed, for practical

purposes, to distinguish between a manuscript—or an artifact, or a product—

that makes a contribution to the quality of our society and one that does not.

WHAT FORM OF PROTECTION?

Computer programs, as we have seen, introduce an entirely new order

of things. How should property rights in this new combination be protected?

It is appropriate to secure the means of expression of a writing through copy-

right. It is appropriate to protect a mechanical device through patent. What

is the appropriate way to secure something that is both a writing and a mechani-

cal device?

STATUS QUO?

There is no question that a reasonable degree of protection, to justify

the expense and intellectual work of devising programs, is needed. The first

issue that needs to be settled is whether any protection in addition to that now

available under law is, or will be, needed.

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The Commission has been given ample testimony to the ardent and
understandable desire of the computer industry for every form of protection
it can get. No matter that trade-secrecy laws and copyright are mutually
exclusive in intent; a number of interested witnesses have said they want
both. But the Commission has not been given any evidence whatsoever that
various forms of existing law, other than copyright, have been inadequate
to secure computer programs during a period of fantastic development and
fierce competition.

The only testimony the Commission has had as to actual abuses
and misappropriations of computer properties has come from the Stanford
Research Institute. In 470 cases over a 10-year period reviewed by SRI, not
one involved issues in the area of copyright. In all cases, there was an
existing realm of law under which the crimes could be, and were, dealt with.
The actual crimes were malicious mischief, arson, burglary, bombing, murder,
breaking and entering, larceny, obtaining money under false pretenses, theft,
forgery, embezzlement, violation of trade secrets, altering of records, in-
vasion of privacy.

The arguments of the Subcommittee against further reliance on trade-
secrecy laws are theoretical, and some of them are highly dubious. (E.g.,
transaction costs: It is extremely doubtful that if the industry were given
copyright protection for programs, it would discontinue the "expensive security
measures" designed to prevent all forms of abuse and misappropriation.) The
Subcommittee's arguments are not supported by any evidence the Commission has
been given. As we shall see below, it is clear that the industry wants this
form of protection and will do everything it can to hold on to it. A CONTU

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staff paper, "Reasons for Denying Copyright to Computer Programs," deals with this trade-secrecy issue, among others, at length.

THE NEW-LAW OPTION

In support of its view that computer programs should be protected by copyright, the Software Subcommittee presents extended arguments against two alternative forms of protection, patent and trade-secrecy laws.

But these are not the only non-copyright alternatives. From the very first, in staff memoranda and Commission discussions, another option has been listed: new legislation, defining a new form of protection tailored to this new phenomenon which is both a writing and a mechanical device, with the aims of encouraging new developments in the field and of ensuring their optimum reach.

This section of this paper will attempt to respond to some arguments against even considering the new-legislation approach; will present some second thoughts on claims for copyright for programs, as opposed to new legislation; and will offer one tentative, but apparently viable, model for such legislation.

1. The New-Technology Argument

One argument against the new-law approach offered the Commission by the Software Subcommittee has been the assertion, during an oral exchange, that you cannot write a new law for every new technology that comes along.

The reason for urging a new form of protection, however, has nothing to do with the newness of the technology; it has, rather, to do with entirely new problems of substance, arising from the fundamental nature of certain pro- ducts and processes of the technology. The reason for urging the new form is

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that something altogether new in essence—something that is both a writing (usually suitable for copyright) and a mechanical device (usually suitable for patent)—has emerged. This point is developed further in the above-mentioned staff paper, "Reasons for Denying Copyright to Computer Programs."

2. Mandate Argument

Staff memos have consistently argued that anything but copyright would be outside the mandate of this Commission; the sequitur seems to have been that CONTU therefore cannot consider the new-law approach. But if the Commission should conclude, after study, that copyright is not the right form of protection for computer programs, it would surely have to outline what it thought to be the appropriate alternative. If this were to be new legislation, the Commission would have to set forth the underlying principles of such a law, in order to justify its conclusion.

3. The Register's Memo Argument

"From 1964 until January 1, 1978," the Software Subcommittee report says (p. 7, and fn. 11), "the authority for seeking copyright in a program has been, and will continue to be, the Register's letter of May 19, 1964." Three things about this authority need to be stressed, however.

One is that the Register's decision to accept computer programs as "books" was made despite expressed doubts whether programs were within the category of "writing of an author" in the Constitutional sense. It is the burden of this paper that this doubt should now be confirmed.

Second, the Register's memo was issued during the infancy, or very young age, of the technology. It now should be much clearer what programs are and how they are used.

And third, it is obvious that the industry, faced with a choice between secrecy and dissemination, as represented in the choice between trade-secrecy laws and copyright, has overwhelmingly opted for the former; and such registration and notice-filing as has taken place has been in the nature of bet-hedging. From 1964 to January 1, 1977, only 1205 programs had been registered (and two companies, IBM and Burroughs, accounted for 971 of those). According to International Computer Programs, Inc., which publishes a newsletter on the programming industry, something in the order of 1,000,000 programs are developed each year (taking into account revisions of existing programs so radical as to make them new programs). There are roughly 300,000 programmers in the United States who spend at least part of their time developing new programs. These figures show how miniscule has been the response to the Register's memo. The Subcommittee Report (p. 12) attaches significance to the fact that numerous general-purpose programs have borne copyright notices; it should be fairly obvious that this practice, also, has been a matter of bet-hedging, reflecting the industry's uncertainty about future legislation.

4. The Preemption Argument

The recent CONTU staff memorandum, "Preemption of State and Common Law Protection for Works Subject to Copyright Protection," concludes that in spite of the preemption clause of the new copyright act (and, by the same reasoning, in spite of the added stricture on preemption with respect to computer programs proposed by the Software Subcommittee), "it appears that the availability of trade-secret protection for computer programs will not be disturbed by the . . . new copyright law. Rather, the difference in protection

offered by trade-secret law and copyright, along with the current judicial

trend towards recognizing comity between state and federal authority unless

absolutely barred by a strict interpretation of federal regulatory legisla-

tion, indicates that trade-secret protection for computer programs can co-

exist with copyright."

5. The Whitford Committee Argument

The Software Subcommittee relies (p. 2, fn. 2) on an agreeing con-

clusion of the so-called Whitford Committee, in Great Britain. It should be

noted that other inquiries have come to quite different conclusions. The

World Intellectual Property Organization (WIPO), an agency of the United

Nations, is devising a model form of registration for computer programs which

combines features of patent and copyright law. A recent Consumer and Corporate

Affairs study in Canada, reflecting the opinion of the Canadian Economic

Council, concluded (April, 1977) that computer programs could not be protected

by copyright "without copyright principles being twisted beyond recognition."

There have been many studies on this issue, and different proposals, reflecting

widespread uncertainty as to the best course, have been made. Examples of these

are cited in a CONTU staff paper, "The Software Issue."

6. Political Expediency Argument

It is argued that efforts to get a national fair-trade law through

Congress, with adequate and uniform trade-secrecy provisions, have dismally

failed, and that therefore the chances of getting through a new computer-

protection law would be slight. But it is clear that CONTU has a duty to

find and recommend what is right and proper, not what is expedient. It was

precisely because CONTU would be outside politics and beyond lobbying pressures

that Congress passed this issue on to the Commission.

7. Legislative Intent Argument

"A reading of the Act of 1976 and consideration of its legislative history," the Report says (p. 7), "indicates that it was Congress' intent that computer programs be within its ambit." Is this intent so clear? It is true that in several places in the legislative reports there are sprinklings of references to computers. But the explicit language of both House and Senate Reports on Section 117, explaining why the computer question was turned over to CONTU, said, "It has become increasingly apparent that in one major area the problems are not sufficiently developed for a definitive legislative solution. This is the area of computer uses of copyrighted works: the use of a work 'in conjunction with automated systems capable of storing, processing, retrieving, or transferring information.'" Are computer programs "copyrighted works"? The only authority for considering them potentially so is the Register's letter of 1964--itself hedged, as we have noted, with doubt. The very fact that Congress threw up its collective hands and turned the computer issue over to CONTU indicates that the intent was cloudy, at the very least. And surely the Commission must take a full view of its assignment, and if it finds that the half-formed intent of Congress was mistaken, it has a duty to say so.

A VIABLE ALTERNATIVE

Attached to this paper is a tentative draft of a statute for the protection of computer software. It is tentative, is not without drawbacks, and is in short not perfect; but it does have certain important values.

1. Neutral Ground

The Software Subcommittee Report (p.6) says, "Many proposals for

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new forms of protection are in most respects indistinguishable from copyright."

This statute is different from copyright in one essential, and the essential,

respect: It is drawn specifically to protect both the expression (appropriate

to copyright) and the innovative ideas (appropriate to patent) involved

in the creation of computer programs. This is exactly appropriate for

something that is both a writing and a mechanical device.

Such a statute, designed to secure something that is sold or

leased as both of these, establishes a reserved territory between copyright

and patent, which has aspects of both but is neither.

2. Term. The proposed term, ten years, is far more suitable for computer

programs than the much longer term of protection of the copyright law. The

effect of this term would be to give an innovative developer an edge on

competitors, but not for so long as to deny to the public the cumulative

worth of the inherent knowledge involved. If the balance between encouragement

of innovation and public access were thought to be too favorable to one or

the other, the term could be accordingly, and with ease, shortened or

lengthened.

3. Flexibility. The statute has the great virtue of simplicity and

of flexibility for the future. The instrument being developed by

WIPO, mentioned above, seems to have become excessivly complicated and

overly technical; this draft suggests that a much "cleaner" law may

be possible. Since changes in technologies for operating computers are

bound to have more far reaching and wrenching consequences than changes

in the technologies of conventional copyrighted works, it would be greatly

advantageous to have a new law covering the peculiar matters of substance

in the former. Mandatory public reviews -- once a decade, perhaps -- might

be built into the statute, rather than, as is proposed by the subcommittee,

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jamming this fast-changing monster into the rigid framework of copyright.

4. The Vital Distinction. This statute places the protection of an essentially

industrial and commercial article where it belongs, and it avoids the pollution

of copyright by mechanical devices. ·

Why does this matter? Proponents of copyright for computer programs

say that it is a matter of semantics whether one calls a form of protection

"copyright" or "beanbag." They reason that if the characteristics of

protection are somewhat similar to those provided writings under copyright,

it would be wiser to bend the copyright law than to devise a separate statutory

scheme to provide the desired protection.

But the entitlement of computer programs to copyright would set a

radical precedent. For the first time, copyright would protect a device which

is capable of "communicating" only with machinery -- thus equating machines

with human beings as the intended recipients of the distribution that copyright

was designed to foster.

Surely it is especially vital, in a time of a hurtling and insatiable

technology, that the Nation's laws reflect, whenever possible, a distinction

between the realm and responsibility of human beings and the realm and respon-

sibility attributed to machines. This statute would help to do that.

COMPUTER SOFTWARE PROTECTION ACT

This Act has been prepared at the request of Commissioner John Hersey
as an alternative to the proposals contained in the Report of the
Software Subcommittee of the National Commission on New Technological
Uses of Copyrighted Works.

§ 1.   Registry of Computer Software

There is hereby created within the Department of Commerce

the Registry of Computer Software, which will receive and register

computer software products in which rights are asserted under the

provisions of this Act.

§ 2.   Definitions

As used in this Act, the following terms are defined as here

set forth:

A "Computer" is a machine or device capable of stor-

ing, processing, retrieving or transferring information.

"Computer software" is a computer program and all

accompanying documentation.

A "Computer program" is a set of machine directions

designed to control the operations of a computer in

order to obtain a desired result.

"Accompanying documentation" is that material, includ-

ing flow charts, diagrams, lists of individual operating

steps of a program, and written manuals explaining or

describing the function, operation and maintenance of

a program, which is supplied by a vendor or supplier of

computer software along with the program itself.

§ 3.   Protected Subject Matter

(a) Protection may be obtained under the provisions of this Act

for computer software which is the product of original intellectual effort,

produced in any form or medium, and which includes as one of its component

elements a computer program capable of interacting directly with a computer

to control its operations in order to obtain a desired result.

(b) In no case does the protection afforded by this Act

extend to any element of computer software which is merely the

embodiment of a mathematical relationship or scientific principle.

§ 4.   Exclusive Rights In Computer Software

The lawful proprietor of computer software under the

provisions of this Act has the exclusive right to do and authorize

the following:

(1) to reproduce the software in whole or

substantial part, including any original

method or process embodied in the software,

in any medium;

(2) to distribute copies of the software, in

whole or substantial part, to the public

by sale or lease;

(3) to use the software, in whole or substantial

part, to operate a computer.

§ 5.   Ownership of Computer Software

(a) The following parties are entitled to ownership of the

exclusive rights in computer software granted under the provisions

of this Act; subject to the provision of section 4(b) of this Act.

(1) the independent creator, or in the

case of products created jointly by two

or more individuals, creators, are

entitled to ownership of the software;

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(2) in the case of software created by an

employee within the scope of his or her

employment, the employer is entitled to

ownership of the software.

(3) in the case of software specially ordered

or commissioned, the individual or entity at

whose behest the software is created is

entitled to ownership of the software;

(b) In determining ownership of exclusive rights in

computer software under the provisions of this Act, the United

States Government is entitled to protection as an employer or

in commissioning work on the same basis as any private person

or organization.

(c) The ownership of exclusive rights in computer

software under the provisions of this Act, including initial

entitlement thereto, may be transferred in whole or in part

by contract and may descend according to testamentary dis-

position or applicable laws of intestate succession.

(d) The ownership of exclusive rights in computer

software protected under the provisions of this Act is

separate and distinct from the ownership of any material

object in which the software is embodied. Transfer of a

particular copy or copies of software does not, in the

absence of specific agreement, entitle the transferee to

exercise the exclusive rights in software granted by

section 4 of this Act.

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§ 7. Term of Protection

(a) The exclusive rights granted by section 4 of this Act shall endure for a period of ten years, which period shall terminate in all events on the last day of the 10th calendar year in which protection extends, beginning at the earliest of the following occurrences:

(1) the computer software is first used, other than for the purpose of developing and testing, in the operation of an electric data processing machine under authority of the owner;

(2) the computer software is first made available, by sale, lease, or otherwise, to any members of the public under authority of the owner.

§ 8. Preemptive Affect of Protection

(a) All legal or equitable rights that may be asserted in computer software created after (effective date of law) are the exclusive product of this Act, subject only to the following exceptions:

(1) Rights in accompanying documentation may be secured under the Copyright Act, Title 17 of the United States Code; and can coexist with protection under the provisions of this Act.

(2) Trademark protection, either at common law or under the provisions of the Lanham Act, 15 U.S.C.

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§§ 1051-1127 et seq., may be secured for computer

software, and can coexist with protection under the

provisions of this Act.

No other exclusive rights may be asserted in computer software,

whether under federal legislation or state statutory and common

law, outside the provisions of this Act.

(b) All rights in computer software created prior to (effec-

tive date of law) are to be determined according to all federal,

state and common law applicable prior to the effective date of

this Act.

§9. Notice

Any program or separate component of accompanying documentation

constituting a portion of a software product in which protection under

the provisions of this Act is sought must contain a visually perceptible

notice placed on or attached to the software component in a conspicuous

location so as to give reasonable notification of the claim of ownership

in the software. All reproductions of software components created under

authority of the owner must contain the notice required by this section.

Notice must consist of the following elements:

(1) The words "software protection," the abbreviation

"Soft.", or the symbol " Ⓢ "; and

(2) The name of the owner of the computer software, or

an abbreviated designation by which the owner can be

recognized.

(3) The year in which the term of protection initially

vests, as defined by section 7 of this Act.

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§10. <u>Error</u> <u>in</u> <u>Notice</u>.

(a) The omission of or error in the content or placement of notice required by section 9 of this Act on computer software products distributed under authority of the owner does not invalidate the protection available under the provisions of this Act.

(b) No liability for monetary damages or equitable compensation will be incurred for unintentional violations of an owner's exclusive rights in software which result from an innocent violator being reasonably misled by the absence of proper notice from software in which protection is claimed under the provisions of this Act. In determining the absence of liability, a court shall consider whether a violator had access to sufficient information on the software product in question to identify the actual owner, or be directed to accessible registration records maintained at the Registry of Computer Software which would disclose the identity of any party claiming exclusive rights in the software under the provisions of this Act.

(c) A court may grant injunctive relief under the provisions of section 14(a) of this Act against one innocently misled by the absence of proper notice under the standards of subsection (b) of this section, or in the alternative may, in its discretion and in order to prevent hardship to an innocent violator who has incurred substantial investment in activity in violation of exclusive rights granted by this Act, condition continued violations upon the payment to the actual owner of software of a reasonable royalty.

§11. Registration

(a) The owner of any computer software product shall, as a condition to protection under the provisions of this Act, register the claim by providing the Registry of Computer Software, with the following:

(1) an application form prescribed by the

Secretary of Commerce; and

(2) a registration fee prescribed by the

Secretary of Commerce; and

(3) one complete copy of the computer

software, including the program and

accompanying documentation.

(b) The Secretary of Commerce is authorized to prescribe by regulation the required contents of the application form required by subsection (a)(1) of this section and the registration fee required by subsection (a)(2) of this section. The Secretary may also permit, by regulation, the provision of identifying, descriptive material in lieu of the computer program in order to avoid the imposition of practical or financial hardship on the Registry of Computer Software or the registrant.

(c) The Secretary of Commerce shall, upon receipt of a proper claim for registration as governed by subsection (a) of this section, register the claim and issue the registrant a certificate of registration for computer software. That certificate shall constitute _prima facie_ evidence of the facts set forth in the application for protection required by subsection (a)(1) of this section, admissible in any action to enforce rights in such registered software brought under the provisions of this Act.

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(d) The failure to include individual components of the accompany-
ing documentation required for registration under subsection (a) of this
section will not invalidate the registration. Provision to the Registry
of Computer Software of any such components may be compelled by order
of the Secretary of Commerce, or by any party challenging the rights
claimed by an owner of computer software in a civil action brought
under the provisions of this Act.

(e) No action to enforce rights granted under the provisions of
this Act may be instituted until registration for the computer software
in which rights are being asserted is made in accordance with this
section and no rights will be enforced unless registration in accord
with this section was completed at the time of the allegedly
infringing acts. In any case where a proper application form,
fee and copy of the computer software have been provided the Registry
of Computer Software, but registration has been denied, the applicant
may join the Secretary of Commerce in an action to enforce rights
under the provisions of this Act, and proceed to assert the jurisdiction
of the federal courts provided by section 13 of this Act for all
alleged violations occurring after registration was proferred.

§12 Recordation of Transfers

(a) Transfer of ownership of any of the exclusive rights in com-
puter software granted by section 4 of this Act may be recorded in the
Registry of Computer Software. In order to obtain such recordation, the
claimant of such rights must provide the Registry of Computer Software
with the following:

(2) a recordation form prescribed by the

Secretary of Commerce for the purpose of

recording transfers of rights in computer

software; and

(3) a recordation fee prescribed by the

Secretary of Commerce.

(b) The Secretary of Commerce is authorized to prescribe by

regulation recordation forms required by subsection (a)(2) of this

section and the recordation fee required by subsection (a)(3) of

this section.

(c) The Secretary of Commerce, shall, upon receipt of a proper

claim for recordation of a transfer of ownership in computer software

protected under the provisions of this Act, record the claim and issue

the claimant a certificate of recordation. That certificate shall con-

stitute prima facie evidence of the facts set forth in the application

for recordation, admissible in any action to enforce rights in registered

software brought under the provisions of this Act.

(d) No action to enforce rights asserted by the transferee of

the initial registrant of rights in computer software may be

instituted until recordation of the transfer is made in accordance

with this section.

§13. Jurisdiction over Civil Actions

Jurisdiction over any cause of action to enforce rights granted

under the provision of this Act lies exclusively in the federal district

courts. 241

§14. Remedies for Infringement

(a) The owner of any of the exclusive rights granted under the
provisions of this Act may obtain injunctive relief to prevent the
violation of any of these exclusive rights, subject to the discretion-
ary authority vested in the courts by section 10(c) of this Act. Any
injunction awarded to enforce these rights shall be operative through-
out the United States and all territories and possessions subject to
its laws, and may be enforced by proceedings in contempt. As part of
the injunctive relief, a court may seize and dispose of any materials
found to violate exclusive rights asserted in software.

(b) The owner of any of the exclusive rights granted under the
provisions of this Act is entitled to money damages for the actual
damages incurred as a result of infringement of rights protected under
this Act, and to any additional profits lost as a result of such in-
fringement.

(c) The successful party in a cause of action brought under the
provisions of this Act is entitled to recover the costs of the action,
and may also recover, at the discretion of the court, a reasonable
attorney's fee.

§15. Limitation of Actions

No cause of action may be maintained under the provisions of this
Act unless it is commenced within three years after the claim accrued.

§16. Authorization to Promulgate Rules

The Secretary of Commerce is authorized to establish rules and regu-
lations consistent with the provisions of this Act for the administration
of the Registry of Computer Software.

NATIONAL COMMISSION ON NEW
TECHNOLOGICAL USES OF COPYRIGHTED
WORKS   (CONTU)

September 16, 1977 at 9:30 A.M.

Room 2119, Federal Building
210 South Dearborn Street
Chicago, Illinois

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NATIONAL COMMISSION ON
NEW TECHNOLOGICAL USES OF
COPYRIGHTED WORKS
(CONTU)

VERBATIM REPORT OF PROCEEDINGS of

commission meeting No. 16, held on September 16,

1977 at the hour of 9:30 o'clock A.M., in Room 2119,

of the Federal Building, 210 South Dearborn Street,

Chicago, Illinois. Presided over by JUDGE STANELY

H. FULD, Chairman of the Commission.

MEMBERS OF THE COMMISSION:

    JUDGE STANLEY H. FULD, Chairman

    MELVILLE B. NIMMER, Vice-Chairman

    JOHN HERSEY, Commissioner

    ARTHUR MILLER, Commissioner

    ALICE WILCOX, Commissioner

    RHODA KARPATKIN, Commissioner

    ROBERT WEDGEWORTH, Commissioner

    DAN LACY, Commissioner

    WILLIAM DIX, Commissioner

MEMBERS OF THE STAFF:

    ARTHUR LEVINE, Executive Director

    ROBERT W. FRASE, Assistant Executive Director

    MICHAEL KEPLINGER, Assistant Executive Director

CHRISTOPHER A. MEYERS, Staff Attorney

JEFFREY L. SQUIRES, Staff Attorney

DAVID PEYTON, Policy Analyst

PATRICIA T. BARBER, Librarian Analyst

ALSO PRESENT:

FRED CROXTON, Representing the Library of Congress

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I N D E X

CHAIRMAN FULD: I call this session to order and I welcome Mr. Donald King of King Research.

MR. DONALD KING: Thank you, Chairman Fuld. I want to thank you for the opportunity to talk to you this morning. I consider the invitation an honor.

I am going to discuss results of the photocopying survey conducted by King Research over this past year. Before I present these results, I thought it would be worthwhile to describe briefly the study.

The survey is based on a random sample of 370 libraries located throughout the country. We sent five different data collection forms to each of the libraries chosen in the sample.

The first form was for screening the libraries concerning their eligibility to participate in the survey. On this form, the libraries indicated how much photocopying they did, the number of machines that they had, and so on. These data also helped determine how many of the other forms to send to them and how many days they should observe their photocopying.

The second form, a volume log, was used to record every single photocopying transaction over a short period of time ranging anywhere from two days up to several weeks. We observed approximately 13,000 such individual transactions. The libraries recorded the following information from those transactions: type of material, number of

pages, whether or not it was copyrighted, year of copyright, and type of transaction (if interlibrary or intrasystem loan).

We followed the volume log with a characteristics form that obtained a great deal more in-depth information about copyrighted serials such as whether the photocopied material was foreign or domestic, the title of the serial, copyright holder, International Standard Serial Number, source of request, purpose of request, and whether or not the information was obtained for an individual or for internal use. We observed approximately 19,000 transactions from the characteristics form.

The libraries also filled out an interlibrary loan form concerning information on their interlibrary borrowing. This form provided data from the standpoint of the borrowing library rather than the lending library which was obtained from the volume log and characteristics forms. We received essentially the same interlibrary loan data as one gets from a standard interlibrary loan form. The borrowing data included: number of copies requested, number of pages, serial titles, ISSN, requestor, purpose of request, year of publication, disposition, type of lending library and whether the publisher was domestic or foreign.

We also had a final data collection form which is an in-depth form involving information about the library itself, their attitudes concerning the different kinds of royalty payment mechanisms, some indication of what the cost would be to implement various mechanisms, and so on.

Before I begin discussing the charts, I think it would be beneficial to define three terms. First term, transaction, which is the exchange in which photocopying is initiated and carried out. The second term, source item, is the item which is photocopied, such as an article, a chapter from a book, an entire volume, an entire book or the number of pages from an article or book, and so on. Third, the photocopy item, which is the principal item of observation.

The total number of photocopy items is the sum of the filled requested photocopy items. If there is one copy of a source item requested in a single transaction, this would constitute one photocopy item. If two photocopies were requested in one transaction, that would constitute two photocopy items.

In this study, we have summed all of the photocopy items over all transactions. This sum is the principal observation that I will be talking about today.

I would like to emphasize, before I present the data, that we feel that there are a number of conditions of eligibility for royalty payments that are as yet unresolved.

Certainly the CONTU guidelines have been very useful from the standpoint of interlibrary loan. But as yet, there is lacking a similar set of guidelines concerning other forms of photocopying--that is, for local use and for intrasystem loans.

I am going to concentrate today on some of the impacts of applying guidelines similar to those CONTU has applied to the

interlibrary loan to give you an indication of what impact these hypothetical conditions of eligibility would have on the number of eligible photocopies.

These data will be presented from the standpoint of individual libraries and, as well, from the standpoint of publishers.

At the very beginning of this study we had to define the population, or the libraries that are located in the United States. We used a number of different lists, and quite a number of different sources to identify by name as many unique libraries as we possibly could.

We found that there were approximately 8,310 public libraries and about 3,030 academic libraries. We obtained these data primarily from a list developed by the National Center for Education Statistics, Office of the Assistant Secretary for Education, Department of Health, Education, and Welfare.

We also found approximately 8,510 special libraries. We derived this number from several different lists, including Gale's list, from the American Library Directory, and the Special Libraries Association Directory, and one or two other sources. We sampled these lists separately, and cross-checked the samples against the other lists. Using the results, we were able to estimate the unduplicated total number-- 8,510, and also to assemble a sample representative of the 8,510.

The last type of library was the Federal libraries.

We included 1,430 Federal libraries in this population.

The total number of libraries all together came to 21,280 libraries. [See Figure 1].

COMMISSIONER LACY: Mr. Chairman, may I ask a question?

In the 8,310 public libraries did you count, for example, the Chicago Public Library as one library, not counting its branches as separate libraries?

MR. KING: We included each public library system as a single library, following the practice of the National Center for Education Statistics.

COMMISSIONER LACY: Well, for example in New York State in the Westchester County Library System, which is really a federation of libraries rather than a single one, each separate component is counted as a separate library.

Isn't that so?

MR. KING: In that particular instance, I believe those are counted as separate libraries. But with any city where they have branch librries, the system is treated as a single library. We used the definitions of type of library developed by the National Center for Education Statistics.

COMMISSIONER LACY: Was the test whether they were separately supported or funded out of a common fund?

NUMBER OF LIBRARIES

SOURCE: KING RESEARCH, INC.

252
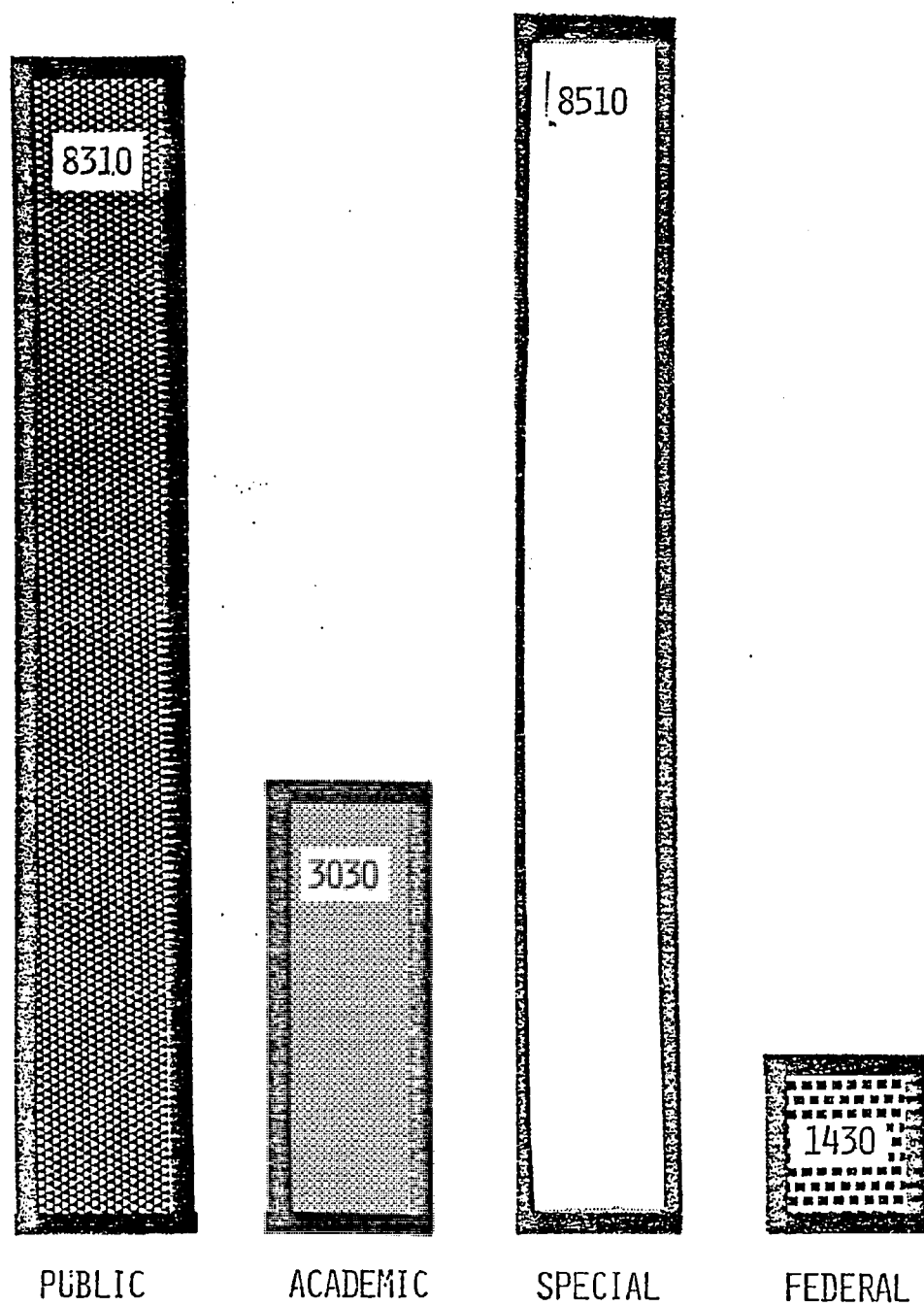
FIGURE 1

MR. KING: Yes, primarily the funding sources. NCES distributes the survey reporting forms to the public libraries, who determine for themselves how to report, based on funding and other criteria.

COMMISSIONER LACY: Thank you.

COMMISSIONER MILLER: On academic libraries, is that higher academics? Does it include secondary schools or primary schools?

MR. KING: It does not include elementary or primary schools, or the two year colleges. [Correction: Libraries in two year colleges were included in the sample.]

COMMISSIONER LACY: It does not.

COMMISSIONER MILLER: On Federal, does that include the separate libraries maintained by each United States Court, or are the Court libraries included at all?

MR. FRASE: I think it's just the executive branch there.

MR. KING: I'm pretty certain it's just the executive branch. [Correction: The universe of Federal libraries includes court libraries and libraries in the legislative branch.] We have a detailed list of the sources and a detailed description of the definition of the libraries, which are included in the report.

COMMISSIONER LACY: An academic library such as the medical school library of a university--would that be included as a separate university for this compilation?

MR. KING: Yes. For the most part all libraries on a campus
are considered to be one library, except sometimes professional libraries
such as medical and law are considered to be separate. Also, there
was a question in California, for example, about whether the entire
system was a single library or whether or not the branches within a campus
were considered to be a single or an organizational library.

VICE-CHAIRMAN NIMMER: How did you come out on that?

MR. KING: Well, we did not include the entire system of
California libraries, and that, of course, is a problem of definition
that one must be faced with, particularly, for what we refer to later
on as "intrasystem loans."

These are loans that are made among libraries within a single
organization to the branch libraries. I will discuss how much photo-
copying takes place with that kind of arrangement.

The second chart gives the total number of photocopying
machines found in these libraries. This information is given to point
out that not all photocopying machines within the library are included
within this study. For example, we did not include coin-operated
machines. We included only those machines that were operated for or by
library staff for their patrons or their own staff use. Machines that
were set aside for local patrons' use only were not included in this
study. [See Figure 2].

The number of machines is very close to the number of

PHOTOCOPYING MACHINES

8300	3600	6800	1200
PUBLIC	ACADEMIC	SPECIAL	FEDERAL

SOURCE: KING RESEARCH, INC.

255
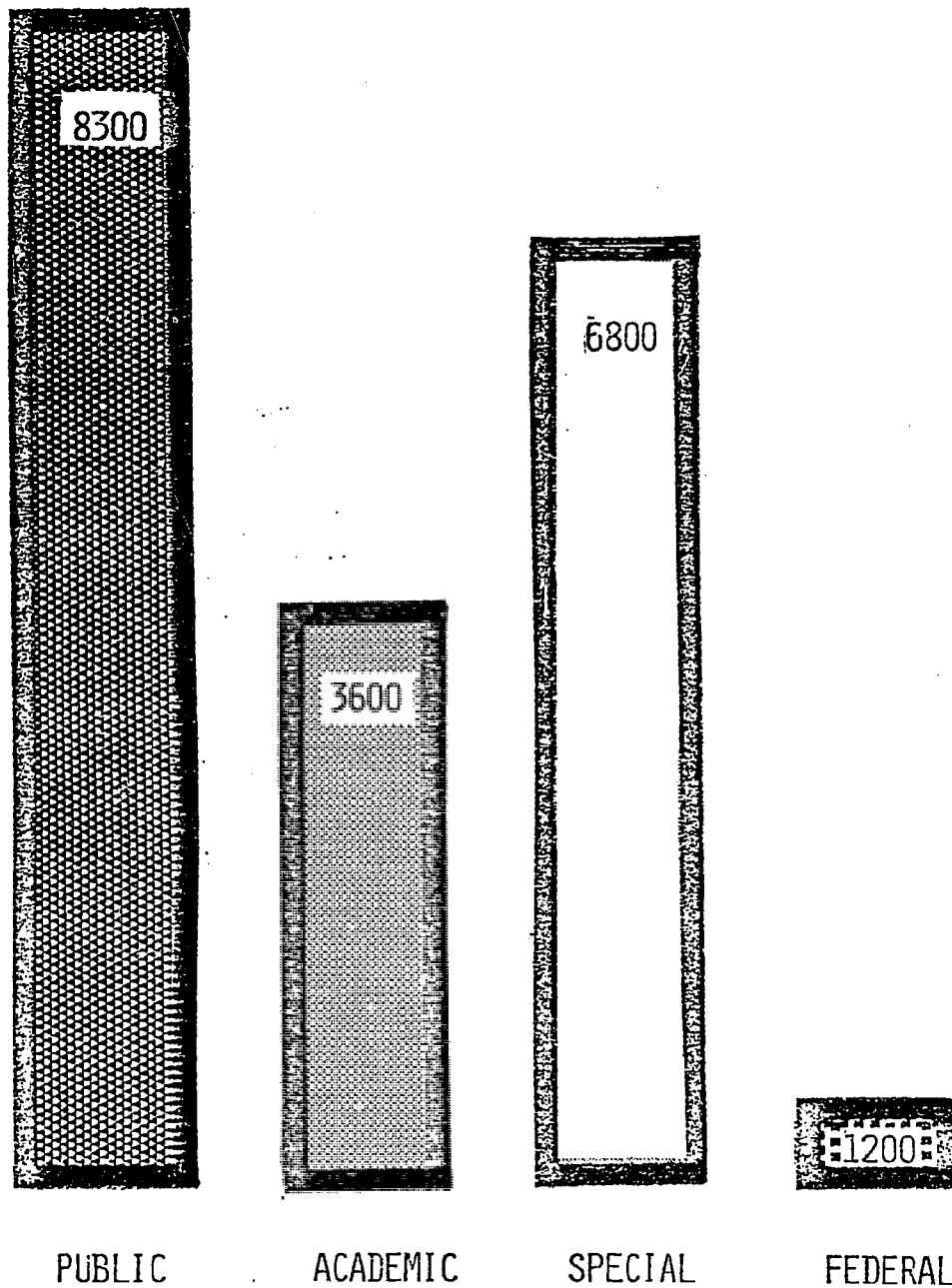
libraries that we identified. In the public library there were

estimated to be 8,300 machines. This means that there is about one machine

per library, on the average.

In the academic libraries we estimated about 3,600 machines.

Again, on the average, there is slightly more than one machine per library.

In special libraries, we estimated 6,800 machines, which is less

than the number of libraries.

Obviously there are some special libraries that do not have

a machine that is entirely designated for library use only.

In Federal libraries, the estimated number of machines is

1,200. Again, there were slightly fewer machines than there were libraries

in the sample.

There were a total of 114 million photocopies made by library

staff in the 21,280 libraries in the population. This number includes:

64 million photocopies of items made in public libraries; 16.6 million

photocopies of items made in academic libraries; 26 million photocopies of

items made in special libraries and 7 million photocopies of items made

in Federal libraries. [See Figure 3].

The photocopying here included the following types of

material:

(1) serials, such as journals, scholarly journals, trade

magazines, popular magazines (such as _Time_ magazine and newspapers),

NUMBER OF PHOTOCOPY ITEMS (MILLIONS)

64.3			
		26.0	
	16.6		7.0
PUBLIC	ACADEMIC	SPECIAL	FEDERAL

SOURCE: KING RESEARCH, INC.

257
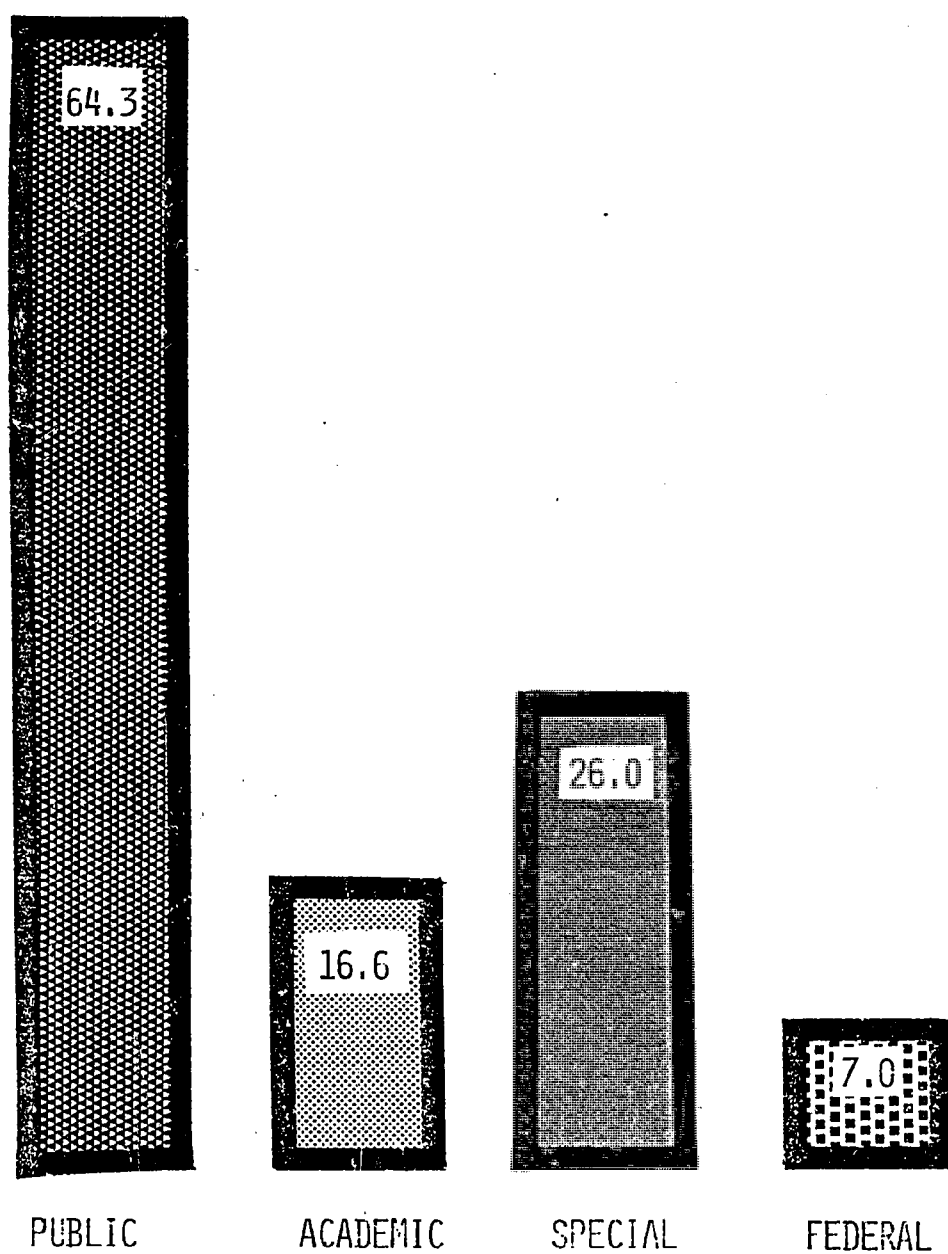
and other kinds of serials;

(2) books, monographs, and serials that were published less than once a year;

(3) other materials, which included such things as technical reports, photographs, and so on. It did not include traditional office kinds of materials.
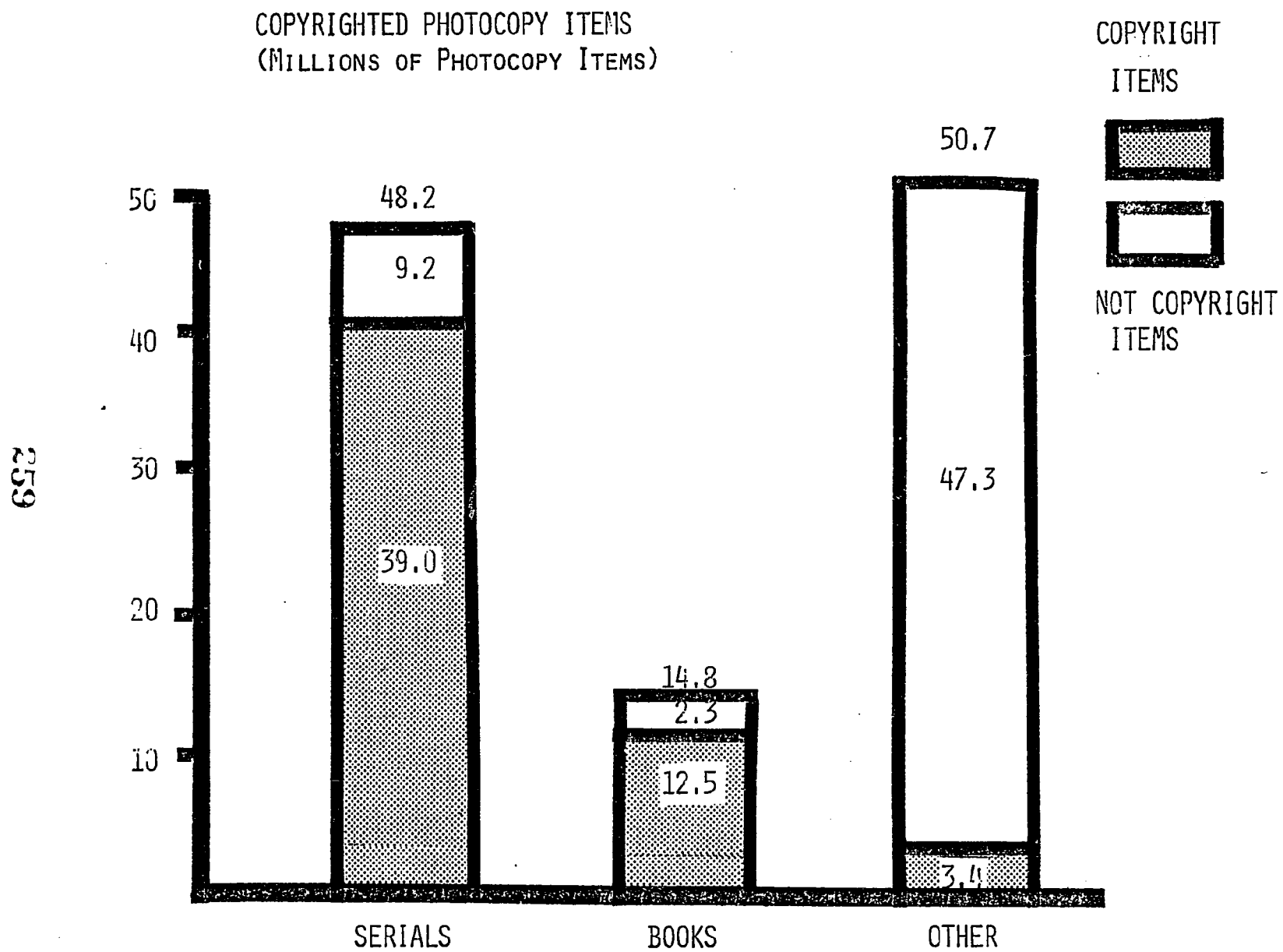
The amount of photocopy of the types of materials that were copyrighted... [See Figure 4].

VICE-CHAIRMAN NIMMER: Can I ask about the copyrighting? Are you equating that or non-copyright? Are you equating that without this type of material, or truly stuff in the public domain?

MR. KING: I am talking about materials that are truly in the public domain. We did not include office materials, such as memos and letters, because there were not included in our definition of "other materials."

VICE-CHAIRMAN NIMMER: How do you determine what is in the public domain?

MR. KING: Well, this, of course, is determined by the definition that we gave to the libraries for them to use in recording what materials they photocopied. In other words, when we sent the questionnaires to libraries, we included definitions for serials, books, and other materials. That, in effect, defined our universe of types of materials.

COPYRIGHTED PHOTOCOPY ITEMS
(MILLIONS OF PHOTOCOPY ITEMS)

COPYRIGHT
ITEMS

NOT COPYRIGHT
ITEMS

50.7

48.2

9.2

47.3

39.0

14.8

2.3

12.5

3.4

50

40

30

20

10

SERIALS   BOOKS   OTHER

259

SOURCE: KING RESEARCH, INC.

FIGURE 4

16

VICE-CHAIRMAN NIMMER: Was that geared to the year of the copyright notice?

MR. KING: No. If there was a copyright notice on the materials, the libraries recorded that fact and the year of the copyright.

VICE-CHAIRMAN NIMMER: Let me understand. Are you saying if there was a copyright notice on it then you would assume it was protected by copyright? And if it was not bearing a copyright notice you would assume it was not?

MR. KING: Yes. If there was a copyright notice, we assumed it was copyrighted.

VICE-CHAIRMAN NIMMER: If there was no notice, then you would assume it was not copyrighted.

MR. KING: That is right. In other words, the estimate of non-copyright items includes both indications by the libraries that were not copyrighted as well as those items in which there was no indication of copyright. That is, the libraries recorded that it was not known whether it was copyrighted or not.

VICE-CHAIRMAN NIMMER: Would it include any degree of unpublished material?

Because unpublished materials might be protected by copyright common law or otherwise, even if there is no notice.

MR. KING: Yes, the non-copyrighted total numbers include

photocopying of materials such as technical reports.

VICE-CHARIMAN NIMMER: And yet in most cases if there were no notice on it, it goes into the category of non-copyright? Even though it would be protected by copyright? Is that correct?

MR. KING: That's right.

COMMISSIONER DIX: You did take a count--that is, a 19th century journal, with a copyright notice on it, you assumed was not copyrighted. You'd assume that the copyright had expired.

MR. KING: No. If it had a copyright notice on it we included it as being copyrighted.

COMMISSIONER LACY: Even though the copyright was 1902, let's say?

MR. KING: I am sure that included all notices of copyright regardless of the date. There were very few that were that old, although there were a few.

COMMISSIONER LACY: But there might--there are quite a number over 28 years old, not being used.

MR. KING: We recorded the number by age and I could break out the number of photocopied publications that are over 50 years old. [Note: The final report now gives the number of serials photocopied that were published over 50 years ago.]

However, we included those publications as being copyrighted if so indicated by the libraries.

MR. LEVINE: There was no confusion....I ask the question and have no idea of the answer: if a particular article did not have its own separate copyright notice on it, and yet the journal may have been copyrighted, would that have caused confusion in determining that it was under copyright?

MR. KING: No.

COMMISSIONER WILCOX: Is there a large percentage of the "other" government publications?

MR. KING: Yes. Many of the "other" materials were government publications.

We had to rely, however, entirely on the libraries' assessment of whether or not these items or materials were copyrighted. We did not specifically suggest to them that they take into account whether the publication was 50 years old or over to indicate whether or not it was copyrighted.

COMMISSIONER LACY: They may have taken it into account when they reported it.

MR. KING: Yes, sir, that's true. I can certainly break out the data we have by age. I do know there were some materials that were over 50 years old, because I recall seeing them. I personally went through a large number of data collection forms.

The last slide that I give will indicate the age of the

materials that are photocopied by the type of transaction. I will discuss that, although I did not present it beyond 10 years.

You can see the percentage of items   over 10 years old from that chart.

Are there any other questions about this particular chart?

The other important factor, in addition to the type of material, is type of transaction. We recorded three kinds of transactions, as follows:

(1) interlibrary loan, which is an exchange of materials among libraries that are not part of the same organization;

(2) intrasystem loan, where a library sends materials to branch libraries; and

(3) local use.

It is important to note that we define "local use" as a generic term that includes both patron use (individuals and institutions) as well as use for the libraries and their staff.

The data on local users includes both kinds of users (patrons and staff). [See Figure 5].

I will present data on photocopying under hypothetical conditions of eligibility for the local patron use as opposed to photocopying for library staff.

All data below refer to photocopies made only from serials.

PHOTOCOPY ITEMS BY TYPE OF TRANSACTION
(MILLIONS OF PHOTOCOPY ITEMS)
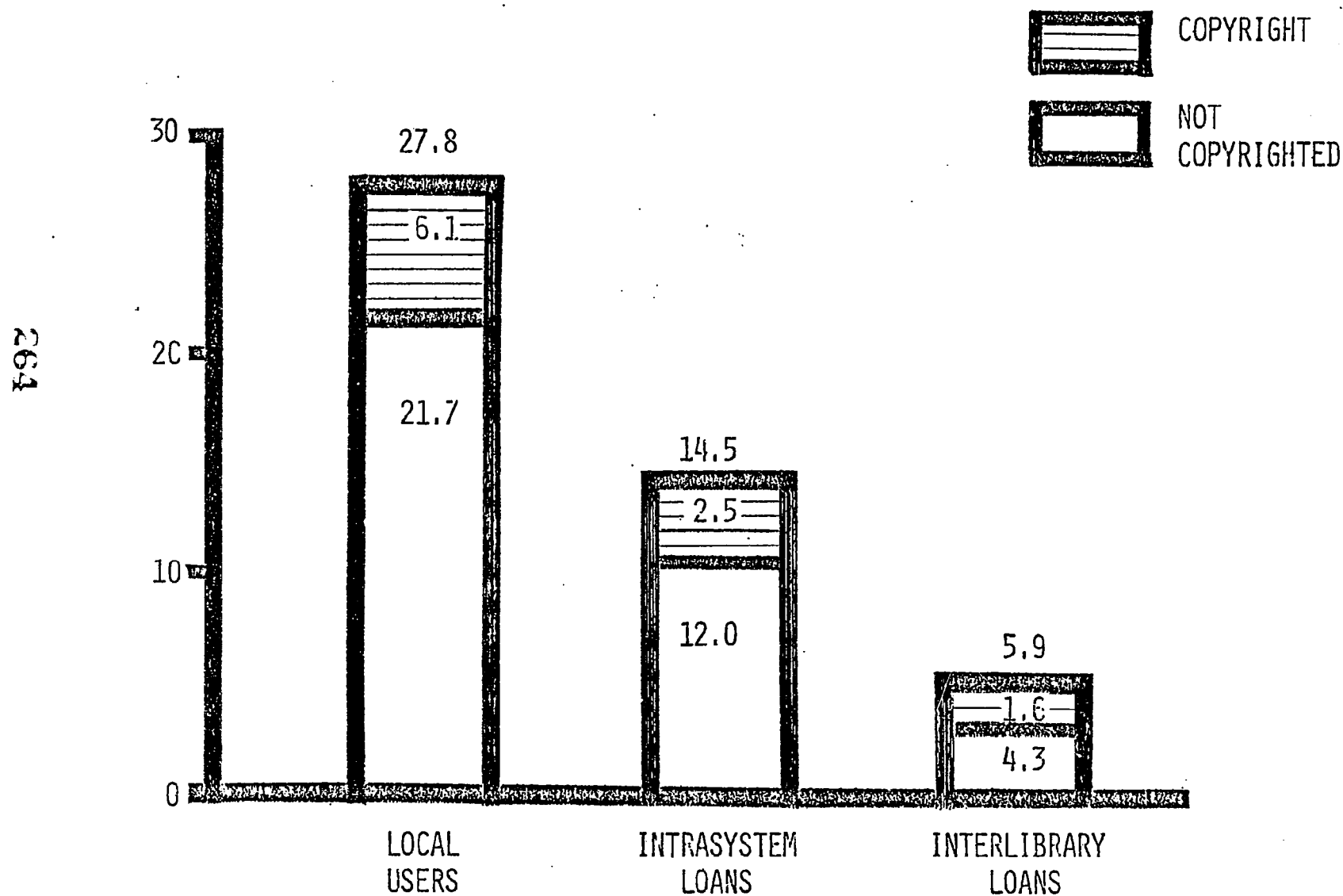
SOURCE: KING RESEARCH, INC.

FIGURE 5

The porportion of the serials that are copyrighted is similar among types of transaction: local users, intrasystem loans and interlibrary loans.

We find, however, when only those serials that are copyrighted are considered, the number of eligible photocopy items begins to dwindle.

COMMISSIONER LACY: May I ask a question about the counting: I am interested in the distinction between intrasystem and interlibrary loans. Back to the same questions about whether you considered two institutions separate libraries—if the Harvard Medical School library got a photocopy from the Widener Library at Harvard, would you consider that an intrasystem or interlibrary loan?

MR. KING: That would be considered intrasystem under our definition. The libraries, however, made their own decision.

COMMISSIONER LACY: If the White Plains Library got something from the Mount Vernon Library, both being cooperation members of the Westchester library system, would that be considered one system?

MR. KING: I am not familiar with that precise situation, but I believe that would have been considered intrasystem.

COMMISSIONER LACY: What about the St. Louis Campus of the St. Louis University of St. Louis?

MR. KING: Again, I'm not sure, but I think that might be interlibrary loan.

I would have to look at each situation a little bit more carefully.

For the most part the distinction was made by the librarians (rather than us), from our definitions of intrasystem loan, interlibrary loan, and local use. We asked them to make the distinction because it was felt they were better qualified than we were to make it.

I know that we did have a problem with Harvard, for example. I believe they have something like 108 libraries on the Harvard campus. There is a problem with that many libraries. We had to handle that by a personal visit to Harvard by one of our professional staff members. We determined how many libraries they had and sub-sampled libraries from them.

But I think it's important to indicate that the distinction was ultimately made by librarians, who did the photocopying.

Now I will discuss the three types of transactions concerning the amount of photocopying under various hypothetical conditions of eligibility for royalty payment.

We do not recommend or suggetst what these conditions should be. We have been instructed not to interpret the law, but only to provide an estimate of the amount of photocopying that is performed under certain hypothetical conditions.

It is hoped these data can be useful to others in making a determination of eligibility, or in arriving at compromises.

As far as the interlibrary loans are concerned, we find

that there is somewhat of a difference in the amount of materials that
are copyrighted depending on the type of library that is involved.
[See Figure 6].

The academic libraries, for example, have a higher proportion
that are not copyrighted and public libraries have a small proportion
that are not copyrighted.

I suspect that that is partially due to the fact that
academic libraries photocopy more foreign materials than other types of
libraries, and some of the foreign serials may not have an indication
of copyright on them.

You can see that by including only the number of items that
are copyrighted, the total number of eligible photocopy items items begins
to drop by a fairly substantial proportion.

Looking at the number of photocopy itmes that are from foreign
versus domestic publishers, we find that academic libraries have a greater
number of photocopies from foreign serials than the other libraries.
This is probably because there is much more emphasis on scientific and
technical (and other scholarly) works in academic libraries and they get
many of these materials from other countries. [See Figure 7].

In the public libraries, there is just a very small propor-
tion of photocopied items that are from foreign published serials. We
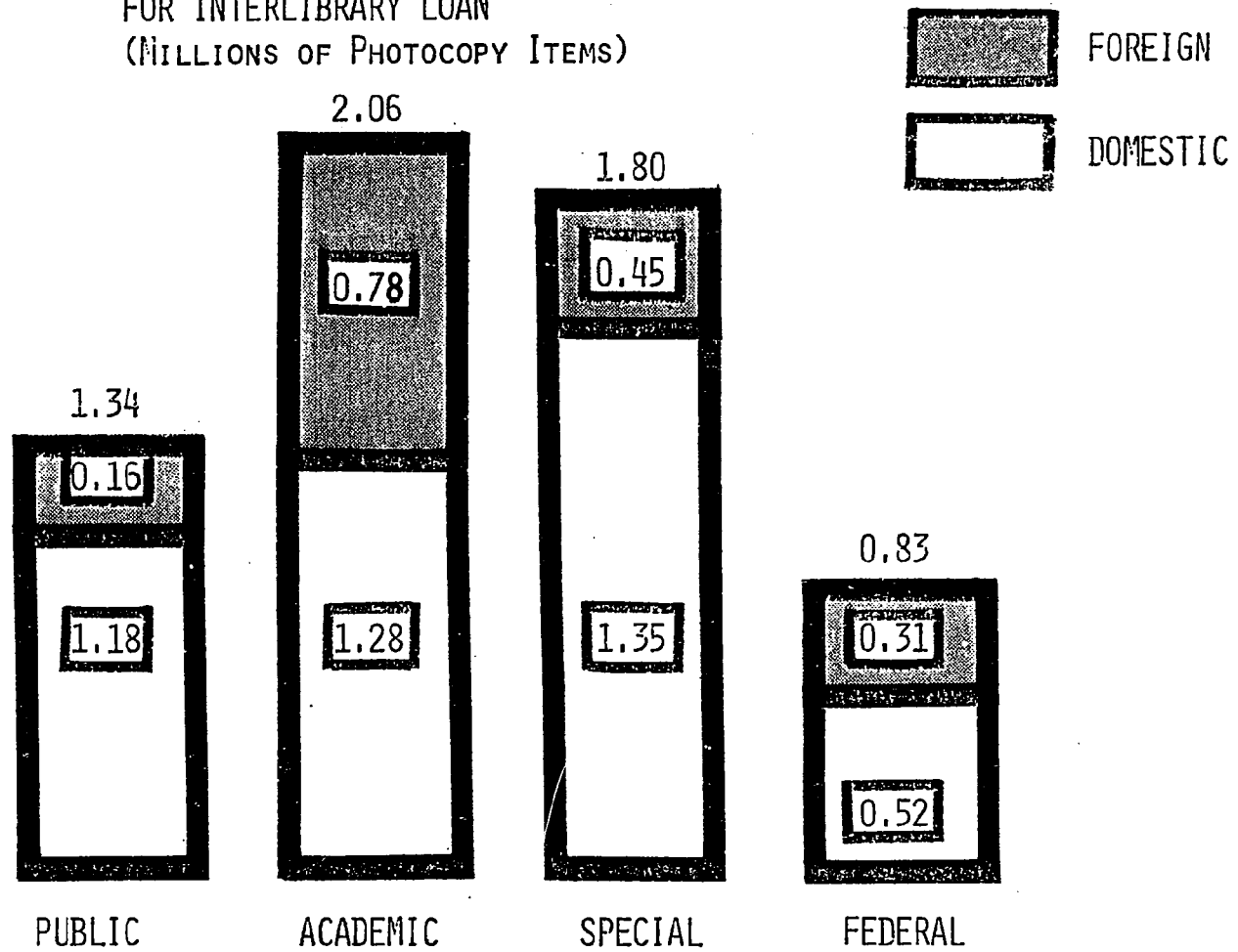found, in public libraries, that there is much less photocopying

PHOTOCOPY ITEMS FOR INTERLIBRARY LOAN
(Thousands of Photocopy Items)
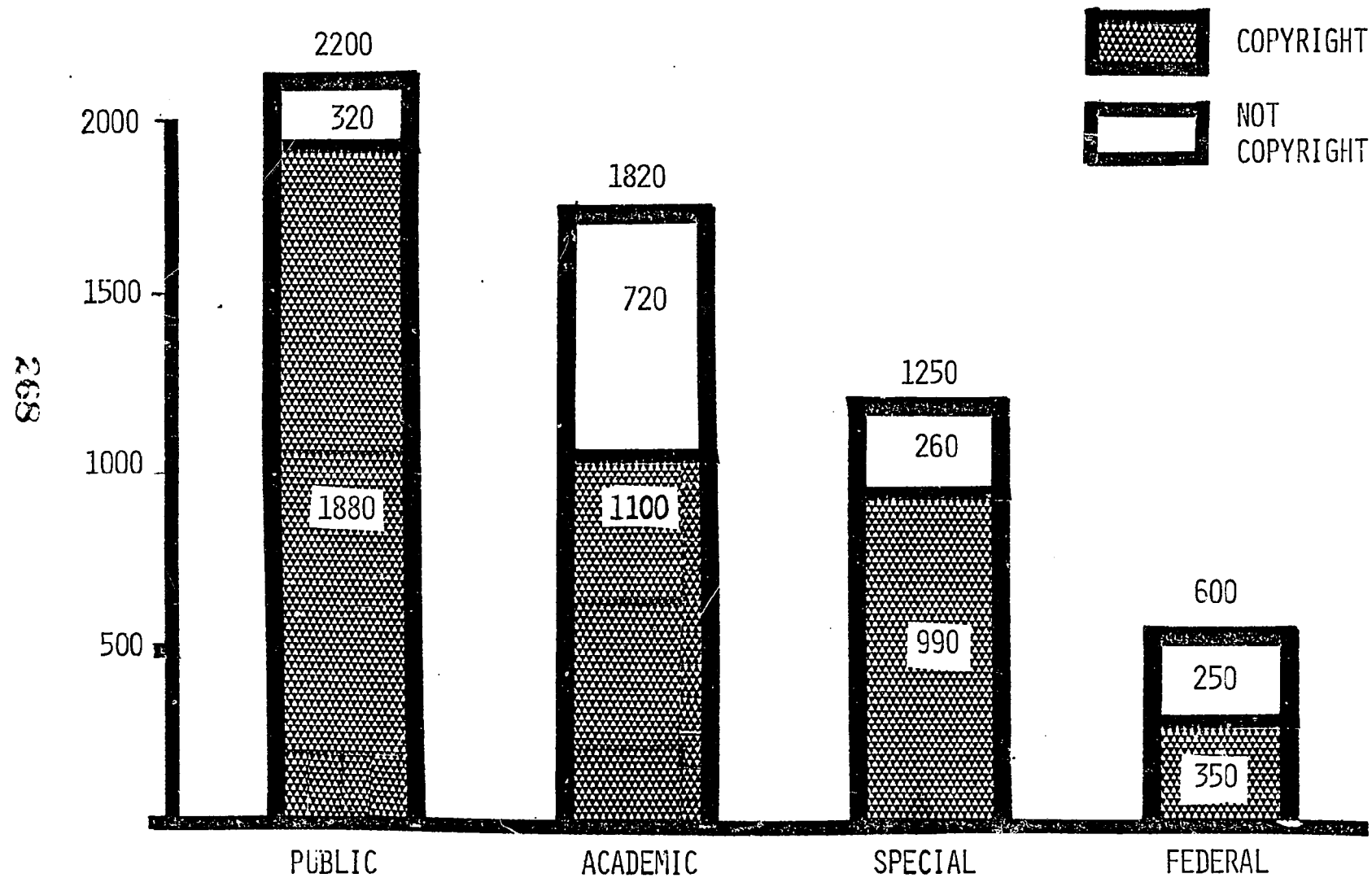
SOURCE: KING RESEARCH, INC.

FIGURE 6

FOREIGN & DOMESTIC PHOTOCOPY ITEMS
FOR INTERLIBRARY LOAN
(MILLIONS OF PHOTOCOPY ITEMS)

FIGURE 7

from scientific and technical serials. We looked at each title and
determined whether or not they were scientific and technical, not scientific
or popular serials.

We found in public libraries much less photocopying of scien-
tific and technical serials. I think that accounts for the high proportion
of photocopying from domestic versus foreign serials.

COMMISSIONER HERSEY: Does that mean much more of the general
kind of serials?

MR. KING: Yes, sir. It appears to include a great deal more
popular magazines such as Newsweek and Time as well as the New York Times
and local newspapers.

I don't recall exactly, but I believe about 40 to 50 per cent
of the photocopying of serials in public libraries is from scientific
serials.

Next is the number of photocopy items for interlibrary loans
that are found under different hypothetical conditions of eligibility.
Again, this is only for serials. [See Figure 8]. There are about 3.8
million total photocopy items made for interlibrary loans. This number
refers to the estimate of number lent.

From this point on, I will refer only to borrowed photocopy
items.

The number of borrowed photocopy items is estimated to be
about 3.8 million. When one eliminates those publications that are over
5 years old, we find that the number becomes about 2.35 million. In
other words, 1-1/2 million items are over 5 years old and, hypothetically,
not considered eligible for royalty payment.

NUMBER OF ELIGIBLE PHOTOCOPY ITEMS
FOR INTERLIBRARY LOAN
(THOUSANDS OF PHOTOCOPY ITEMS)

Bar chart with y-axis from 0 to 4000 (marked at 1000, 2000, 3000, 4000):

- ALL ITEMS: 3770
- ITEMS UNDER 6 YEARS: 2350
- NOT RE-PLACEMENT OR CLASSROOM: 1960
- MORE THAN 5 COPIES: 505
- ELIGIBLE PHOTOCOPY ITEMS: 1925
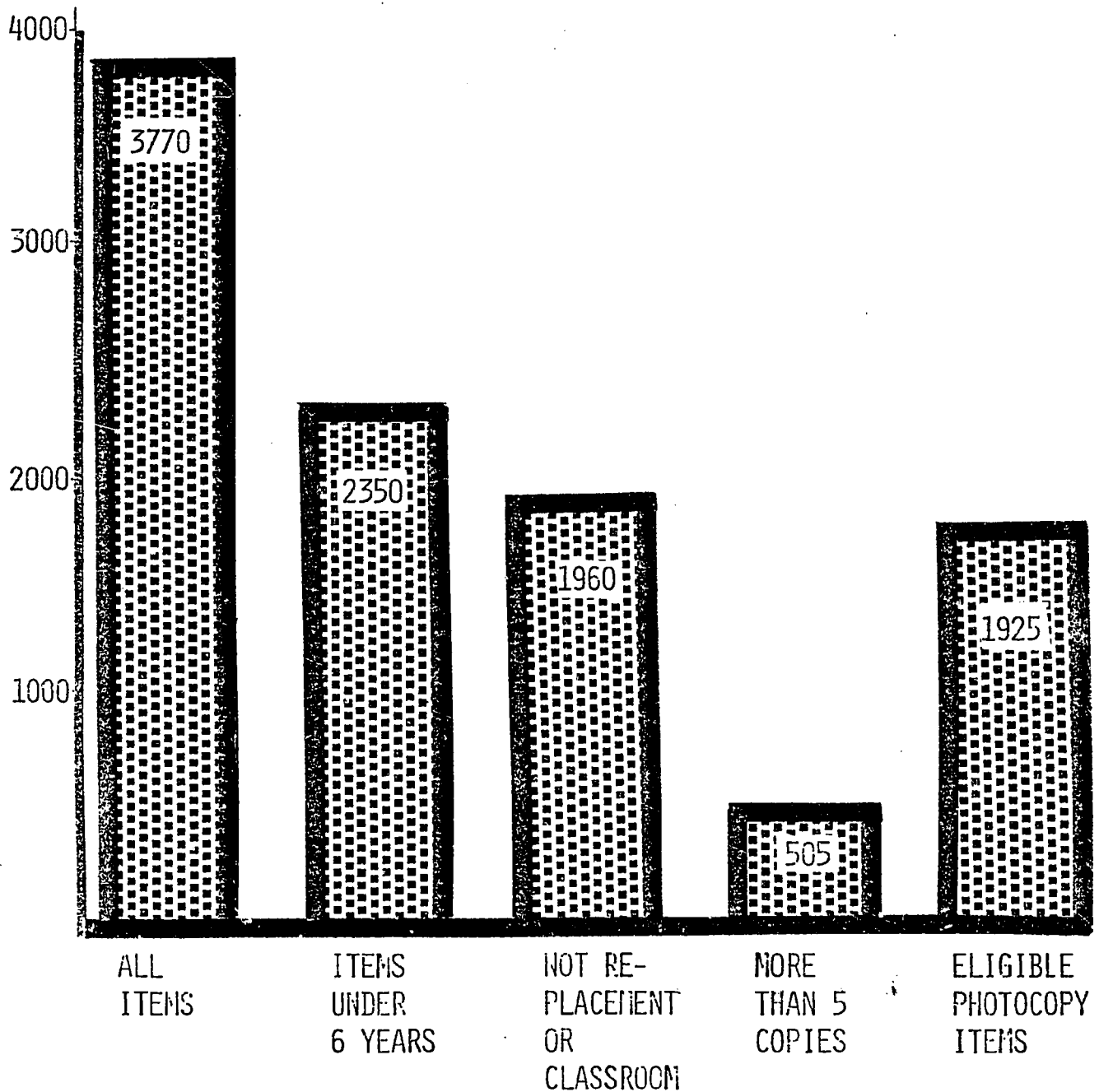
SOURCE: KING RESEARCH, INC.

If one eliminates those items that were photocopied for the purpose of replacement or for the purpose of classrooom use by faculty, we find that the number of photocopy items remaining drops to about 1.96 million. Thus, after these two conditions of eligibility are applied, the remaining proportion of photocopy items drops to about one half the original 3.8 million.

VICE-CHAIRMAN NIMMER: May I ask, in eliminating those for special purposes, did you or did the reporting libraries follow the guidelines, that is, the classroom guidelines? In other words, it's not sufficient simply that it's intended for class purposes, there are a number of conditions imposed.

MR. KING: Well, sir, I should point out that many of these forms were sent to libraries before the law went into effect. We prepared those forms last summer [1976] and the definitions weren't as precise as those given in the law. We came close, as it turns out. As far as the estimate of the gross number of photocopy items that apply to the CONTU guidelines, I think we did a fairly good job. We anticipated some of the conditions under the guidelines.

Neither the definition of replacement nor of classroom use correspond precisely to that of the guidelines.

VICE-CHAIRMAN NIMMER: The replacement might well in fact correspond in any event, but the classroom is rarely severely circumscribed, and I would guess it doesn't relate to your figures.

MR. KING: In this instance, our definition included only classroom use by faculty.

VICE-CHAIRMAN NIMMER: And that's all?

MR. KING: Yes.

VICE-CHAIRMAN NIMMER: There are additional requirements.

MR. KING: Yes, sir, I understand that.

We then applied the rule that only those serial issues that were published within the last five years and for which there were fewer than six photocopies made in a given year. We find that in the interlibrary loans, there is a tremendous drop to approximately 500,000 photocopy items.

Incidentally, I want to point out that each of these hypothetical conditions of eligibility are subsets of the previous condition.

I understand that one other hypothetical condition of eligibility of concern applies to those photocopy items for serials that are over 5 years old.

I understand there are two interpretations of this condition of eligibility. If all of those items, except those that are eliminated for fair use, are included, then the total number of eligible photocopy items is increased to roughly 1.9 million.

COMMISSIONER LACY: You're saying then, Mr. King, in getting that last figure that you are assuming for the purpose of arriving at that figure that even a single request for photocopy from a particular journal, if it were more than 5 years old, would be considered to be a substitute for a subscription, and hence, would be ineligible without permission.

You're applying a much more stringent requirement to over 5 than to under 5.

MR. KING: Yes, sir, that's exactly right.

VICE-CHAIRMAN NIMMER: When you speak of fair use, do you mean no more than one article?

MR. KING: No, sir. When I speak of fair use I'm only referring to those two conditions as defined, by our questionnaire, for classroom use and for replacement copies.

Not the single photocopy. I'll discuss that later. We did not apply that condition at all to interlibrary loans. We did determine the amount of photocopying under conditions of eligibility involving a single copy made for an individual for intrasystem loans and local use.

COMMISSIONER DIX: Do you have figures, Mr. King, as to what would happen if you applied the more than 5 copies test to the last column, the ones over 5 years old?

It does seem to me that, as Mr. Lacy implied, that you have implied a formula to that group of items of more than 5 years old that certainly wouldn't hold up.

In other words, for my own view, in devising the guidelines, we agreed to exempt everything over 5 years. Maybe we didn't, I don't know. But certainly what we would do, if we did anything to them, would be to apply the more-than-5-copies test to them as we do to the ones less than 5 years old.

MR. KING: To answer your question, we did not make that determination. We only included the number over five years after our first draft of the report. We included this number because some members of our advisory group suggested we do so.

There was an opinion at our August advisory meeting that the CONTU guidelines do not suggest that photocopying of serials over 5 years old are ineligible for royalty payment. One publisher indicated in our

advisory meeting that such an interpretation would be an impilcit statement that copyright would not apply five years after publication.

I may not be expressing their opinion exactly, but it's that kind of thinking.

Therefore, some feel that everything photocopied over 5 years is "fair game."

VICE-CHAIRMAN NIMMER: May I just say for the record that the guidelines, as I understand, say explicitly that the guidelines themselves do not purport to decide what the situation is beyond the five years. Since the guidelines do not purport to do that, you are left with the statute, and the statute certainly does not speak one way or the other about the five years.

MR. KING: Yes, sir. Again, I do not wish to appear to interpret the law. But there have been persons who have expressed interest in knowing the impact of this hypothetical condition of eligibility, since there seems to be some question of interpretation.

COMMISSIONER DIX: That will be to say also--and for the record, Vice-Chairman Nimmer--I believe that the library group, during the course of our discussions, agreed that the more-than-six-copies rule assumes that the publishing side has agreed to waive any claim on ones over five years.

In other words, I think we have to have another discussion on this one, before we accept the fact of that last column.

VICE-CHAIRMAN NIMMER: I still hold the interpretation of the

language is that one involved in negotiations.

COMMISSIONER HERSEY: If the record has to be complete, I'm sure

it's not the understanding of the publishers and authors that your inter-

pretation comes through.

MR. KING: Returning to my original comment, made earlier, there

are other hypothetical conditions of eligibility where questions of

interpretation have arisen. We have attempted to present the impact of

some of these different interpretations.

I think the issue of the number of total copies that remain after

screening out the fewer than five photocopies for a given title, warrants

a bit more discussion. I should point out here that we relied very heavily

on the use of the MINITEX data.

As you may recall, MINITEX permitted us to analyze roughly 130,000

transactions they had processed over the period from December 1975 through

November of 1976. These data were extremely useful to us for deriving

a model to estimate the proportion of titles and the proportion of photo-

copy items that remain after applying the rule of the 5 and under use.

It gave us a set of data that we could use for deriving mathematical

models to apply to the national survey data. I'm very grateful that we had

these data.

Incidentally, CONTU was principal funder of that particular effort.

From the MINITEX data, we found that approximately 50,000 of the

photocopy items were transactions involving domestic serials. We included

only 132 libraries that were found within Minnesota itself. These

libraries included academic, public and special libraries. They did not

include federal libraries.

There were 16,900 titles that had a single transaction. I want to

make one thing clear which is that there are really only 6,345 individual

titles involved. However, across the 132 libraries many of those titles are

requested from more than one library. Thus, we show more than the 6,345

titles. They are not unique titles across libraries, but titles unique

to an individual library. [See Figure 9].

We found that about 4,300 titles had two transactions. We found

that 1,700 had three transactions, about 900 titles had four transactions,

and about 500 titles had five transactions.

So, as you can see, the proportion of titles that have more than

5 transactions dwindles to a very, very small number. In fact there are

only 1,300 titles with over 5 copies and only 400 with over 10.

From the standpoint of individual libraries, on the average there

are only 10 transactions that are subject to royalty payment per library.

That is a very small number.

I think this picture is quite significant.

COMMISSIONER LACY: Mr. King, there was one other explosion and it's

not really a liability for payment, it's a liability pertaining to

permission. It might not require payment and that was if the library

had not subscribed to the journal. That is, a library finding, because

they have opened a new subject in their curriculum, that they were having

an extensive need for a particular journal, and have entered a subscription

for it and only had it for the current year.

PHOTOCOPY ITEMS/SERIAL TITLE (MINITEX)
(THOUSANDS OF SERIALS)

OF PHOTOCOPY ITEMS/SERIAL TITLE
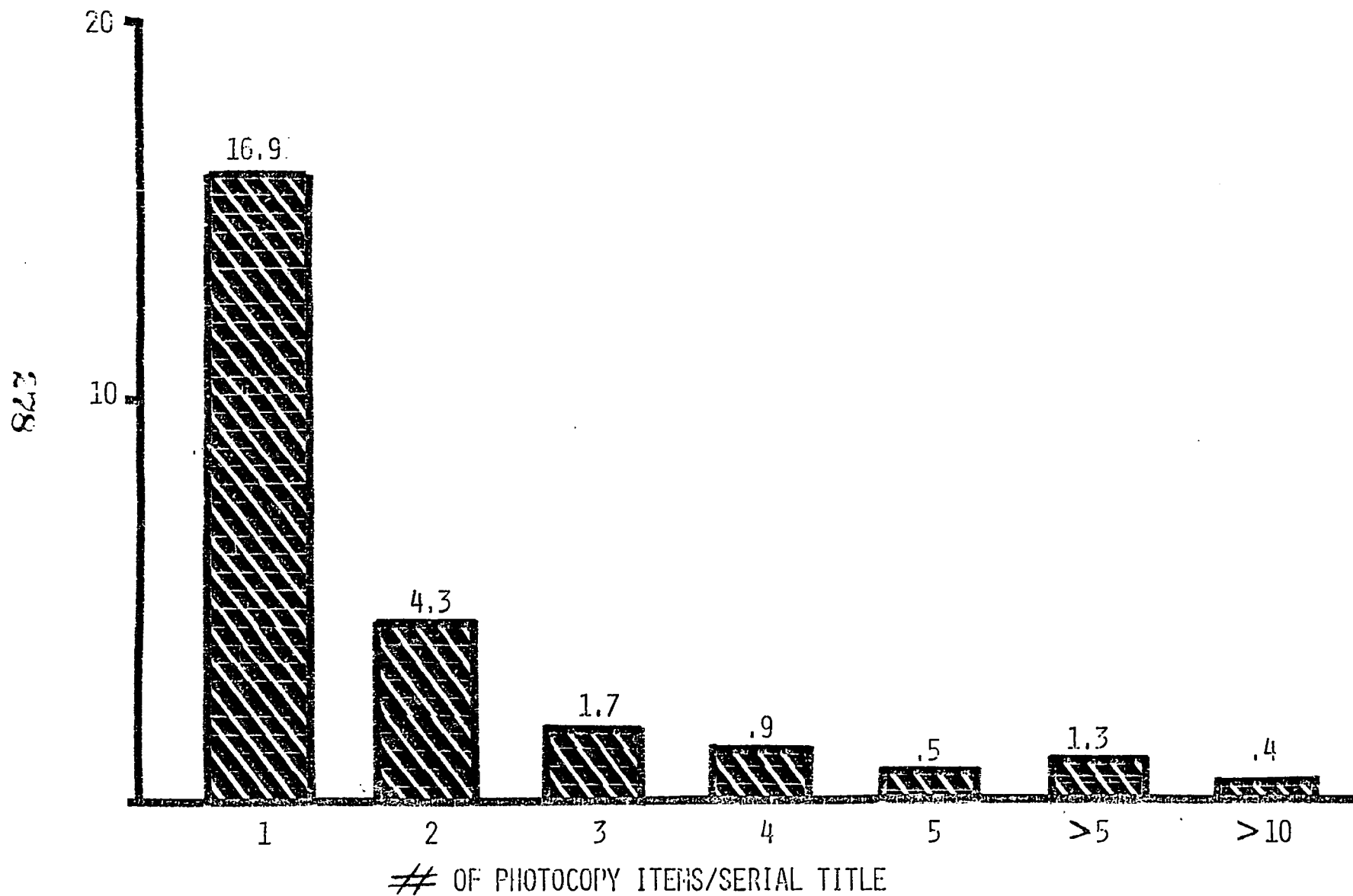
SOURCE: KING RESEARCH, INC.

FIGURE 9

Perhaps they have not even begun getting it yet, and still they might find it necessary to make a number of photocopies of the second, third and fourth year back.

Those, as I recall, were not eligible or did not require permission under the guidelines. Have you excluded from the more-than-5 copyings less than 5 years old those journals to which the library had not entered a subscription?

MR. KING: We did make that distinction, in the MINITEX data, but we did not make that distinction on our national survey, because we did not have information about that situation.

COMMISSIONER LACY: Are you going to come to an observation as to how that will affect the total?

MR. KING: I don't have that observation. I'm sorry, sir.

It will be in our report from MINITEX, but I do not have it available at this time.

The chart [Figure 9] shows only the number of serials. If one examines the number of photocopy items, we find that there were 16,900 serials that had one photocopy item. Thus, there are 16,900 photocopy items involving one copy made. There are 8,600 photocopy items that involved two copies made. As you recall there are 4,300 serials that had two copies made. Therefore, the total number of photocopy items involved is double that number. One can see when the total number of photocopy items are considered, there is a fairly high number of photocopy items over 5 and an even higher number over 10. [See Figure 10].

I will try to show now what impact that has when it is projected to the entire United States.

PHOTOCOPY ITEMS/SERIAL TITLE (MINITEX)
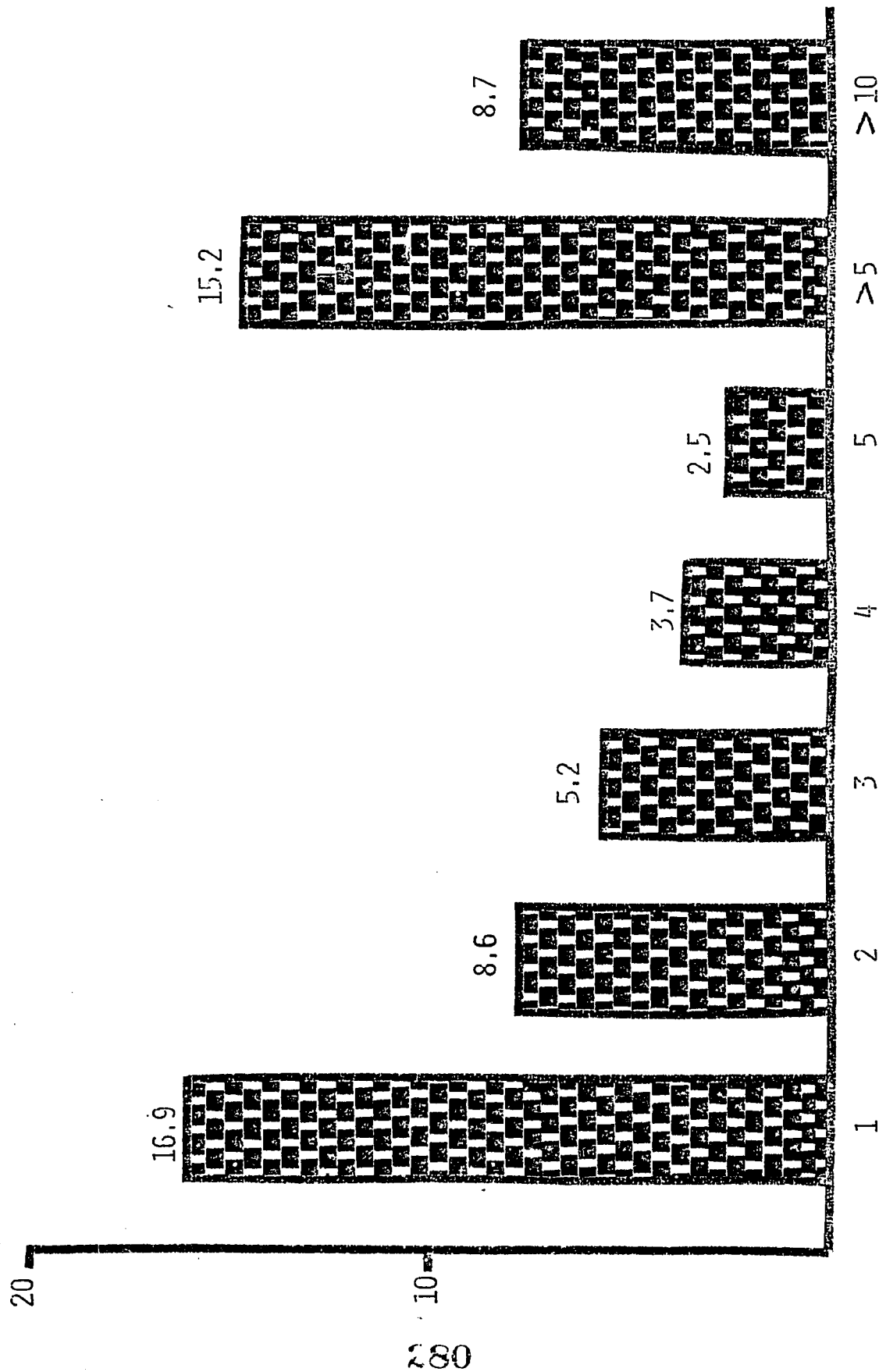(THOUSANDS OF PHOTOCOPY ITEMS)

FIGURE 10

SOURCE: KING RESEARCH, INC.

We find, in looking at the population of libraries in the United States, that 20 percent of the libraries account for 73 percent of the total copying. [See Figure 11].

COMMISSIONER LACY: These are lending rather than borrowing libraries?

MR. KING: These are borrowing libraries, sir.

COMMISSIONER LACY: Borrowing?

MR. KING. Yes. These are borrowing libraries, sir.

An additional 20 percent of the libraries account for another 16 percent of the photocopying and another 20 percent around 7 percent.

About 50 percent of the libraries account for only about 4 or 5 percent of the entire amount of photocopying for interlibrary loans.

I think that this is a very, very significant number. It is one that has been expressed before in the literature, but I think this is the first time that we have really gotten some strong data to determine how centralized photocopying is among libraries.

Looking at the results from another perspective, we feel that publishers are not interested as much in the amount of photocopying that takes place within an individual library, but rather how much photocopying takes place across the libraries for a single title.

In order to estimate this number, we used a mathematical model to determine the amount of photocopying of individual titles and the distribution of photocopying across individual titles when conditions of eligibility are applied. If no hypothetical conditions of eligibility are applied, we find that about 7 percent of all the titles would have over 500 photocopy items per title. Similarly, about 32 percent of the

DISTRIBUTION OF PHOTOCOPYING
BY PROPORTION OF LIBRARIES
FOR INTERLIBRARY LOAN
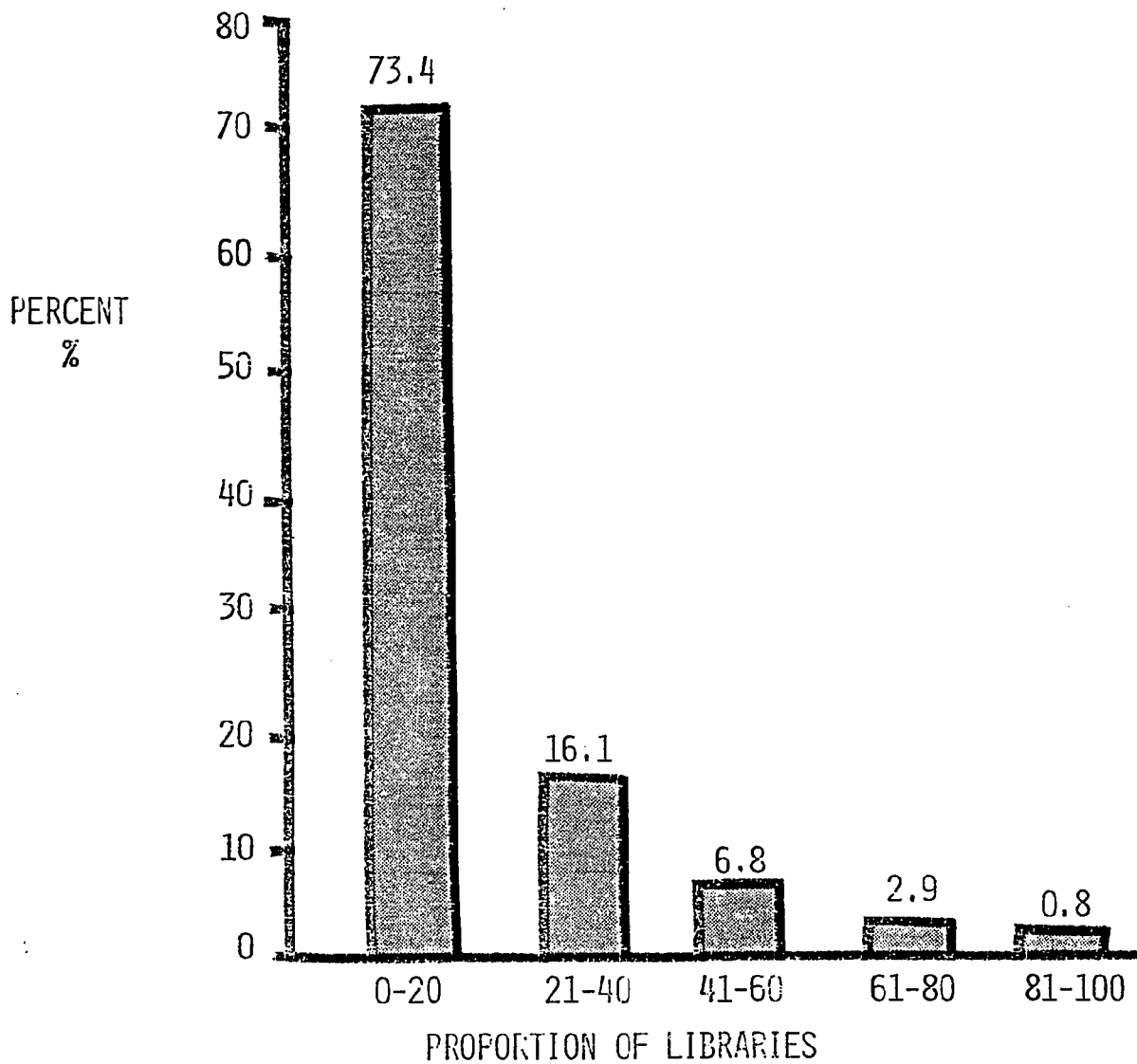
SOURCE: KING RESEARCH, INC.

FIGURE 11

titles will have between 100 and 500 total photocopy items per title, about

21 percent will have between 51 ad 100 photocopies per title, and 40

percent of the titles will have less than 50 photocopy items [See Figure 12].

MR. FRASE: You're still talking about interlibrary loans?

MR. KING. I am still talking about interlibrary loans. I will

apply the same kind of analysis to the other forms of transactions.

COMMISSIONER DIX: I can't see your color code there. Will you

read that for me.

MR. KING: The blue refers to photocopying (no conditions of

eligibility), the orange refers to the photocopying that involves items

that are under 6 years old, and the green applies to items that are under

6 years old. It would also show we had incorporated our definition of

replacement use and classroom use.

If one eliminates photocopying of titles over six years and photocopying

involving fair use, only a trace of titles have over 100 total photocopy

items. Almost 91 percent of the titles will have less than 50 photocopies.

COMMISSIONER LACY: And how about less than 5? Are you applying

them to that also? Less than 5 copies?

MR. KING: No, I did not apply that. The data were too fine to do

that with the individual titles. I just couldn't do it.

VICE-CHAIRMAN NIMMER: Do you have a breakdown of the type of

journal involved?

MR. KING: No, sir, not for this purpose. This goes across all

serials. We do not have it by title. I have it on a gross basis, but

the data are too fine to be able to make statistically reliable estimates.

The number of observations are not sufficiently large.

CONDITION OF ELIGIBILITY - ILL
(PROPORTION OF SERIAL TITLES)

<6 YEARS &
NOT FAIR USE

<6 YEARS

ALL

OF PHOTOCOPY ITEMS
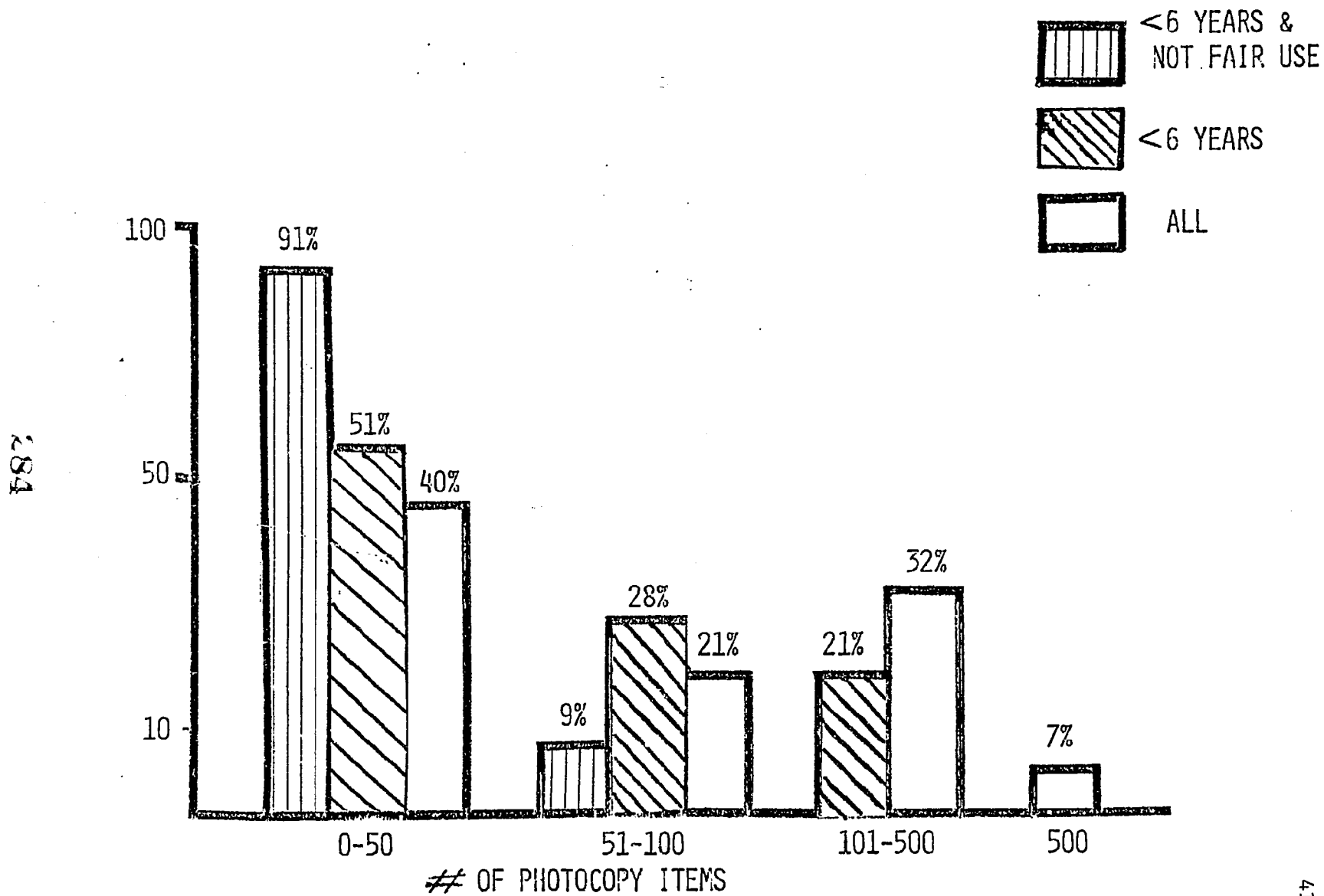
SOURCE: KING RESEARCH, INC.

FIGURE 12

COMMISSIONER MILLER: In the preceding chart where you indicated the distributions --

COMMISSIONER LACY: It's a relatively small number.

COMMISSIONER MILLER: Do you have an indication as to the nature and size of those libraries?

MR. KING: We do have an indication of that, although we have not presented those data.

One of the reasons is, again, that we have only about 370 libraries in the sample, and when that number is subdivided into individual types of libraries, the statistical precision begins to deteriorate. When we try to subdivide it even further, I just don't think the statistical precision is sufficient to present the results. I don't think we have a large enough sample size to really make good estimates, by size, at this level.

We can make those estimates as a matter of evidence, but I just don't think we have large enough samples statistically to do that.

Looking at the results from the standpoint of the serials, we find that 20 percent of the serials account for about 86 percent of the total amount of photocopying. Again, we get that very centralized distribution that we observed with libraries, where a small portion of the libraries account for most of the photocopying [See Figure 13].

Similarly, a small proportion of the serials account for a very, very large proportion of the total copying. Roughly 50 percent of the serial titles accounts for less than about 5 percent of the total amount of photocopying.

DISTRIBUTION OF PHOTOCOPY ITEMS FOR
INTERLIBRARY LOAN BY PROPORTION OF SERIALS
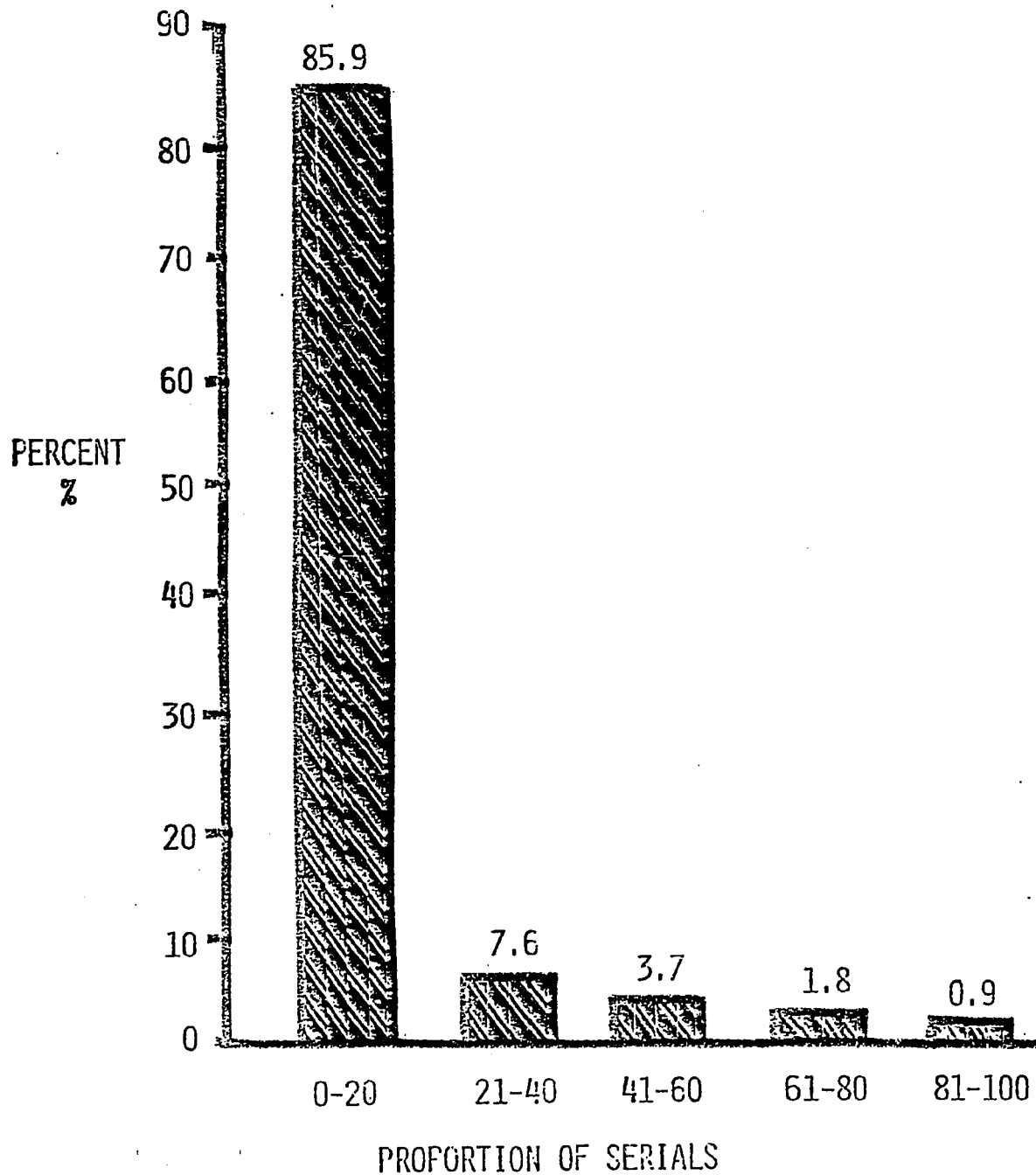
SOURCE: KING RESEARCH, INC.

FIGURE 13

COMMISSIONER WILCOX: Is there any attempt to correlate that data with the lending libraries?

MR. KING: Yes, I did try to do that. We could not do it with the national survey data. We did not have enough observation to do it with titles because we observed photocopying over such short periods of time that individual titles infrequently showed up more than once in a given library.
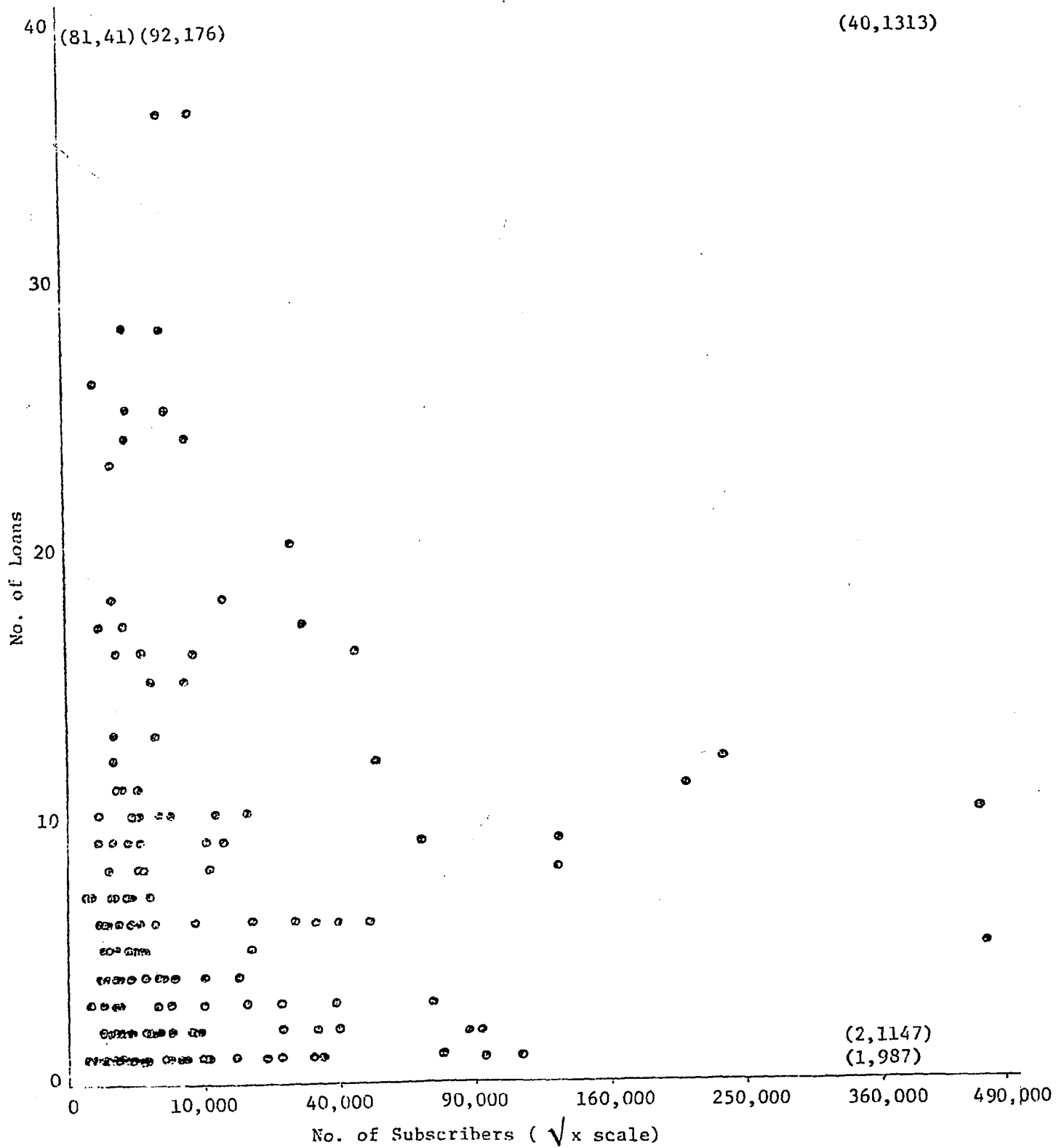
However, with the MINITEX data, what I did was to plot the circulation against the number of borrowings for a sample of serial titles. We got an unusual distribution, I thought. We did not observe a positive correlation as found at the British Library Lending Division.

I think we found an interesting result. We found that the very large serials tended to have a small number of loans. The serials that had a large number of loans tended to have a small circulation. [See Figure 14].

I would like to mention one caveat with those data which deals with the way we obtained the data. We used the MINITEX print-out by serial title to determine how many loans there were for each serial title over the year. Then we took that serial title and looked up the amount of circulation in Ulrich's International Periodicals Directory, 1975-76. About 50 percent of the serial titles did not have the circulation data in the directory. Thus, the data are from a subset of all serials.

I did an analysis to see whether the distribution of titles in the directory were similar to other sources. I compared it to the Fry-White data and some data King Research has with scientific and technical journals. It was found that the distribution of the amount of circulation was very similar.

Figure 5.1   NUMBER OF INTERLIBRARY LOANS VERSUS CIRCULATION FOR SERIALS

No. of Loans

40 (81,41)(92,176)   (40,1313)

30

20

10

(2,1147)
(1,987)

0

0   10,000   40,000   90,000   160,000   250,000   360,000   490,000

No. of Subscribers ($\sqrt{x}$ scale)

So from that standpoint I don't believe that there is a bias. However, there could be some other source of bias such as being related to reasons that the publishers did not report circulation to <u>Ulrich's</u>.

There is a figure in the preliminary draft that we gave to you which gives a plot of the amount of photocopying for interlibrary loan for MINITEX.

This essentially covers the interlibrary loan results. I would like now to discuss the local user results concerning local user transactions and the photocopying that takes place for them.

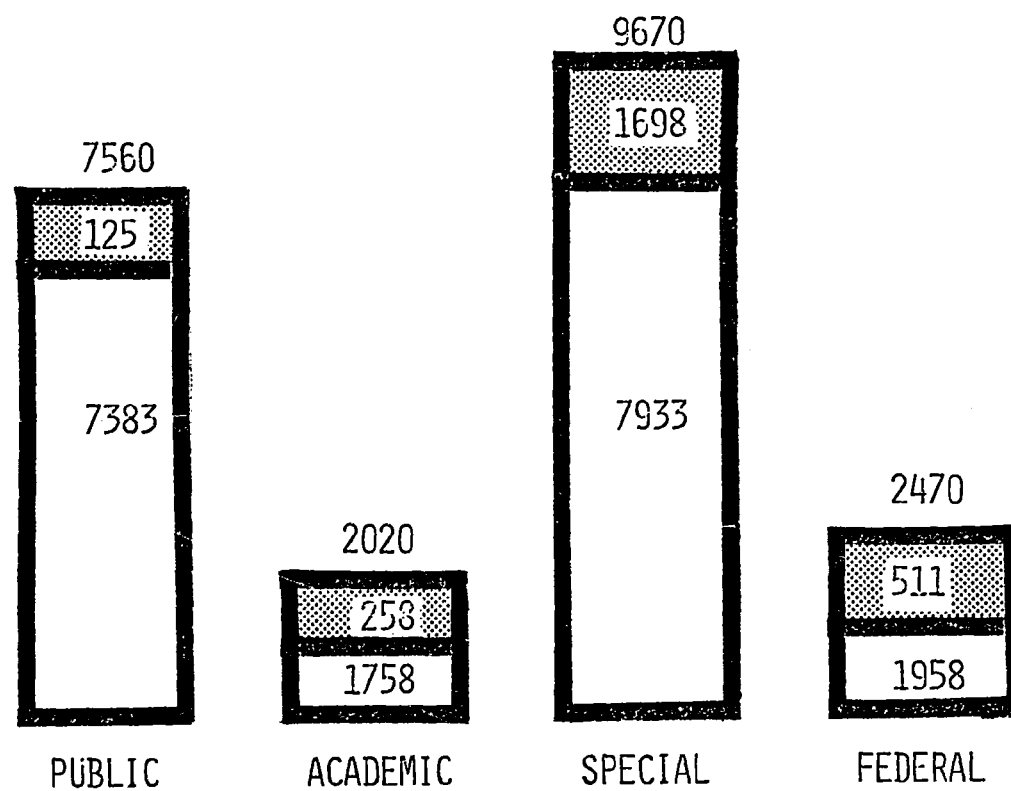We found that the amount of photocopying is about 28 million photocopy items for local users.

Of that amount, 21.7 million items are copyrighted. When foreign publications are not included the total drops to about 19 million photocpy items. [See Figure 15].

I'm sorry, I should mention that dropping the foreign titles does not suggest, of course, that foreign titles are not subject to royalty payment as far as the liability on the part of the individual libraries are concerned. However, we did want to concentrate on domestic publications for the purpose of our study.

I mentioned before 19 million photocopy items are made of domestic serials for local users. If the CONTU guidelines are applied to local use, the number of photocopy items drops to about 14.9 million if we eliminate all of those photocopy items that were made from publications over 5 years old.

The decrease is not quite as dramatic as one we observed with interlibrary loan. The reason is that the average age of the documents that

FOREIGN & DOMESTIC PHOTOCOPY ITEMS
FOR LOCAL USERS
(THOUSANDS OF PHOTOCOPY ITEMS)

FOREIGN

DOMESTIC

9670

1698

7560

125

7933

7383

2020

253

1758

2470

511

1958

PUBLIC   ACADEMIC   SPECIAL   FEDERAL

SOURCE: KING RESEARCH, INC.

FIGURE 15

are photocopied for interlibrary loan are older than those photocopied for either the intrasystem loan or for local users. [See Figure 16]

I think that this makes some sense. It's obvious that in some libraries there are fewer older items on the shelf for one reason or another. Therefore these libraries have to rely more on interlibrary loans.

If we apply our two definitions of photocopying for replacement and for classroom use, and eliminate those photocopy items the number reduces to about 14.3 million photocopy items. If the 5-and-under copies rule is applied the number would drop to about 12.2 million photocopy items.
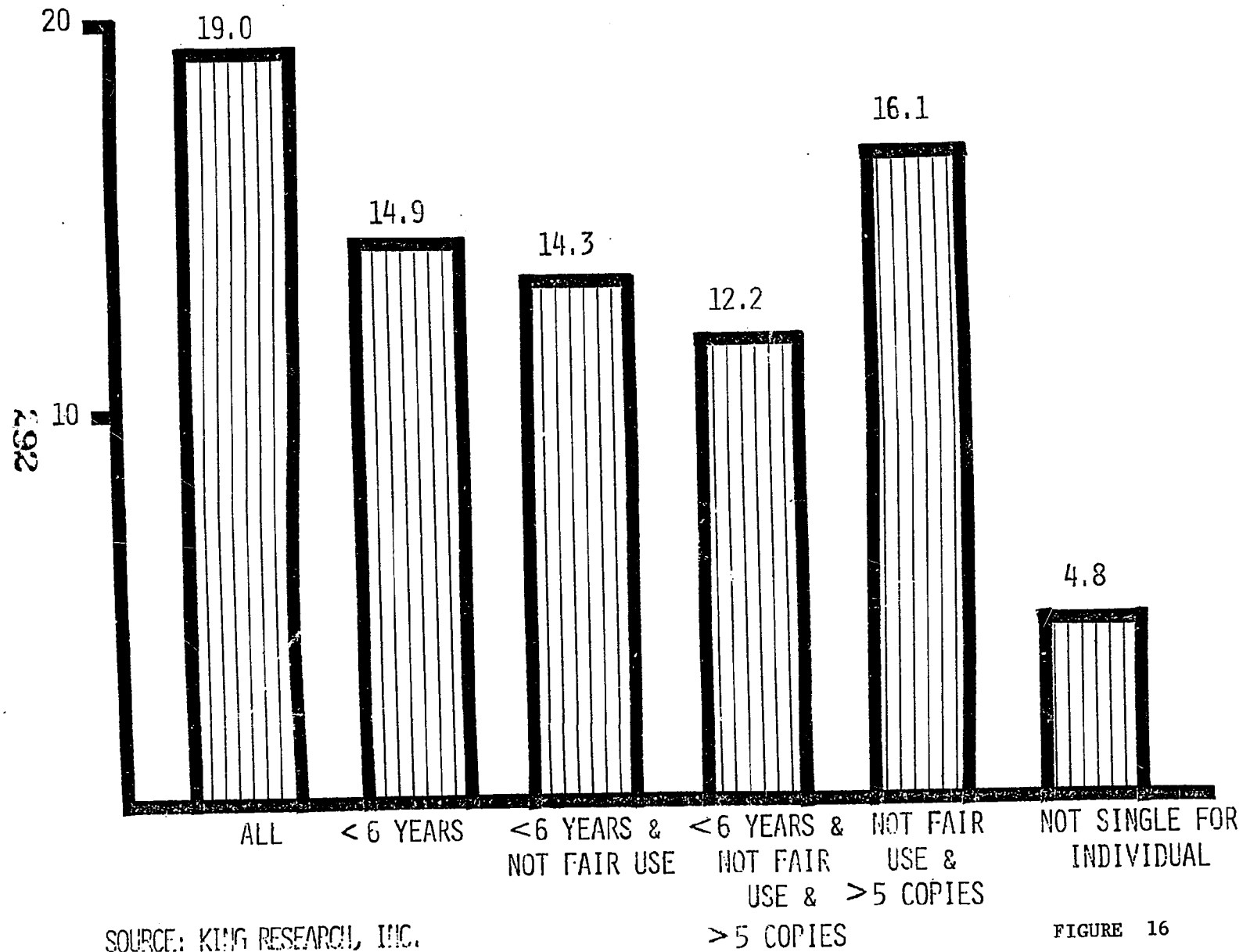
The impact of the 5 and under rule is somewhat less than found with interlibrary loan since there is more photocopying done for local use in the libraries and, therefore, there are more serials that have over 5 copies made.

Applying the condition of eligibility that include all of those items that are over 5 years old, the total increases to about 16.1 million photocopy items that would be eligible for royalty payment.

There is one other hypothetical condition of eligibility that we considered with local use. We also looked at all of the photocopying that was done for local patrons that involved a single copy.

The number of photocopy items that were performed for local patrons and that had more than one copy is estimated to be 4.8 million photocopy items.

CONDITION OF ELIGIBILITY - LOCAL USERS
(MILLIONS OF PHOTOCOPY ITEMS)

	ALL	< 6 YEARS	<6 YEARS & NOT FAIR USE	<6 YEARS & NOT FAIR USE & >5 COPIES	NOT FAIR USE & >5 COPIES	NOT SINGLE FOR INDIVIDUAL
	19.0	14.9	14.3	12.2	16.1	4.8

FIGURE 16

COMMISSIONER LACY: When you say greater than one copy you mean greater than one copy of the same item or do you mean one copy of two or more items. What was ordered at the same time?

MR. KING: No. The former.

I am referring to the transactions that were performed for local patrons that had more than one copy made from a particular source item such as a journal article or book chapter.

COMMISSIONER LACY: I am still not clear, suppose I come into the local library and I order two copies of Mr. Jones's article on this or that, from the American Journal of Physics, and suppose I ordered one copy on the same order sheet, I turned it in and ordered one copy of Mr. Jones's article from the American Journal of Physics and one copy of Mr. Smith's article from a given chemical journal.

MR. KING: To us the latter was considered two transactions.

COMMISSIONER LACY: So that's multiple copies of the same document.

MR. KING: Of the same source item, that's exactly right, in an individual transaction.

There was no way for us --

MR. FRASE: This a rough factor to see what the intent of Section 108(d) might be.

VICE-CHAIRMAN NIMMER: In other words, if someone placed one order, but beyond what is permitted, mainly no more than one article or a small part of a book--if he went beyond that then that would still be only one order, or one copy.

MR. KING: If it was on one order, which is what we call transaction, if there was more than one copy requested on that transaction.

VICE-CHAIRMAN NIMMER: He only asked for one copy but he asked for more than is to be reproduced and is permitted for a user.

MR. KING: Again, we had no way, at the time we sent out this form to make that distinction.

We did record who the item was being photocopied for, that is, whether it was for a local patron or whether it was for library staff.

One thing I should point out was that our definition of a local patron included an individual and an institution. If someone came in and asked for a photocopy on the behalf of his university, the photocopy was recorded as being for a local patron.

We also recorded the number of copies for a given transaction. Therefore, we could break out in the amount of photocopying that was done for a local patron that included more than one copy for that trans- action. That is all we really included and that is what this number means.

Obviously, as you can see, most of the photocopying involves a single copy. Three-fourths of it at least.

COMMISSIONER LACY: I recall that the reference to 5 years and less and 5 copies or fewer in the guideline specifically related to an effort to define that phrase in 108 which says that libraries could obtain copies from interlibrary arrangements that were not in lieu of subscription.

If that was to define how much copying would be considered in lieu of a subscription when you're talking about in-house copy by local patrons, by definition the library has subscribed or it wouldn't have the material to have copied.

Though they might by coincidence be equitable guidelines, they were not really answering that question.

The test that 108 offers is that the library can make a copy of an article for a single user, provided it's not systematically done, and with it systematically done, which is described at some length in the House Committee Report, and by and large doing it systematically to avoid having multiple subscriptions. This is primarily directed to employees of institutions.

You haven't made any effort to apply that concept of systematic and in-house copy.

MR. KING: Not other than by the definition I just gave.

VICE-CHAIRMAN NIMMER: And also the prohibition unrelated or concerted reproduction--that is you have a given user going in one day and saying, I'd like just the first article of this journal please, and the next day he says, I'd like to have the second article, and the next day the third article, so that in essence he's getting the entire issue.

MR. KING: We make no distinction on that whatsoever, and we really couldn't, the reason being that our observations were only made over a short period of time.

We collected data over a period anywhere from two or three days up to two or three weeks. We made projections from that period of time to the entire year.

DISTRIBUTION OF LOCAL
USER PHOTOCOPYING
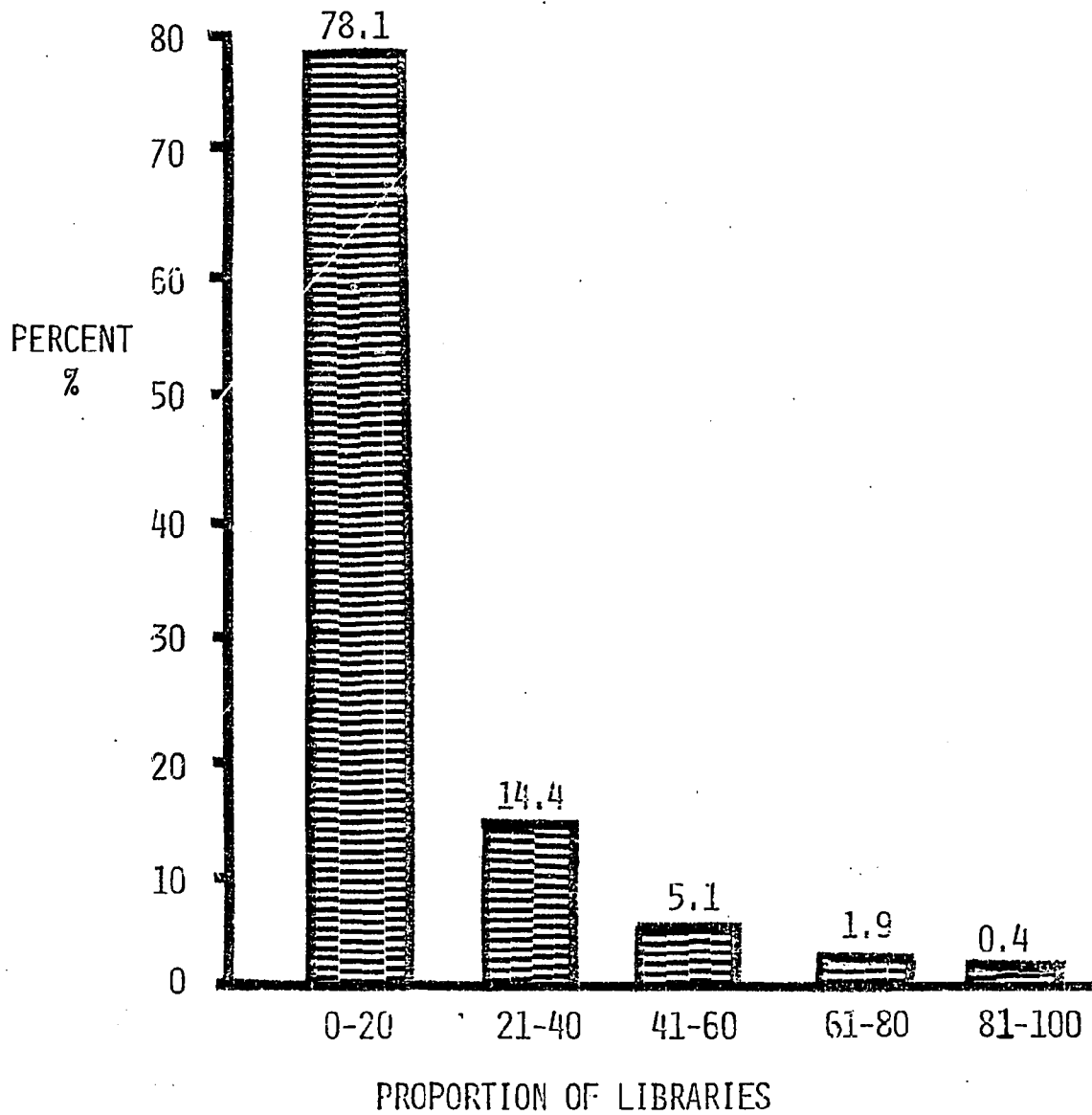
SOURCE: KING RESEARCH, INC.

FIGURE 17

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Therefore it would be very difficult for us to know if the person

came in one day during that period of time and then came in at a later

time. I just don't think it would be feasible to make that kind of

estimate.

VICE-CHAIRMAN NIMMER: Would the library know?

MR. KING: I don't know, I really don't know.

Referring back to the kinds of distributions that I talked about

under interlibrary loan, we find that there are similar distributions

of photocopying for local users. We find that 78 per cent of the

photocopying is done by 20 per cent of the libraries. Again, we have

a very central kind of distribution. [See Figure 17].

COMMISSIONER LACY: Now you're saying by 20 per cent of the

libraries, in this case.

MR. KING: Yes, that's right, sir.

The other chart was given for the borrowing libraries. This chart

gives results for the libraries that prepare photocopies for local users.

Again about 50 per cent of these libraries achieve fewer than about, say,

5 or 6 percent of the photocopying.

A similar kind of a distribution occurs in the two types of trans-

actions. Again, I feel this is very significant in terms of implementing

the law. It is also of great concern to the libraries who are involved

in photocopying.

COMMISSIONER HERSEY: Is there any correlation between the two kinds

of concentration you have been talking about?

MR. KING: In terms of which library?

COMMISSIONER HERSEY: Yes.

MR. KING: I frankly have not done that.

I have not done that analysis. In other words, what you are
asking is, did we sum up the amount of photocopying that was done for
individual libraries over the three types of transactions to be able
to determine whether you get a similar kind of distribution? We
don't have that, but that's a good question.

That's an interesting question.

COMMISSIONER MILLER: So, again, it's possible that 95 per cent of
the academic libraries are in column one?

MR. KING: That's right.

COMMISSIONER MILLER: We just don't know that?

MR. KING: Right.

COMMISSIONER DIX: Mr. King, I'd assume that column one includes
the largest libraries, do you have any figures on that or do I guess we
can just assume that.

MR. KING: Yes, for the most part we did, but again we did not
correlate this with estimates of the volume or size.

COMMISSIONER LACY: Of the circulation.

MR. KING: That's right, sir. Circulation or holdings in a library
are another indication of the size of libraries.

These data are not correlated with the amount of photocopying. But I
think we can safely say the amount of photocopying must be highly correlated
to the size of libraries. For interlibrary loans, that is not necessarily
true, of course.

.With the local use I think that must be true. Looking at the
local user photocopying from the viewpoint of the serials we find
columns for all photocopying, photocopying that is performed on serials
under 6 years old, and photocopying that is done for under 6 years and
eliminating our two definitions of replacement and classroom use.
[See Figure 18].

We find now that 5 per cent of the serial titles have over 5,000
photocopy items, when all photocopying is included, and that 28 per
cent of the titles have between 1,000 and 5,000 photocopy items.

Considering the most restrictive definition, there are no titles
that have over 1,000 photocopy items.

There are about 26 percent of the titles which have between 500
and 1,000 photocopy items and about 24 per cent of the titles have less
than 100.

I think this presents a picture to the individual publishers con-
cerning the amount of photocopying that is elegible for royalty payments.

In looking at the individual titles, we find that 67.5 per cent of
the photocopying is done by 20 per cent of the titles. And that 18 per
cent of the photocopying is done by another 20 per cent of the titles,
and so on. [See Figure 19].

Again, a small proportion of titles accounts for a very large
majority of the amount of photocopying.

COMMISSIONER LACY: For either the interlibrary loan or the local
use or both, do you have lists of the actual serials or selections from
representative serials that make up these categories so we could get
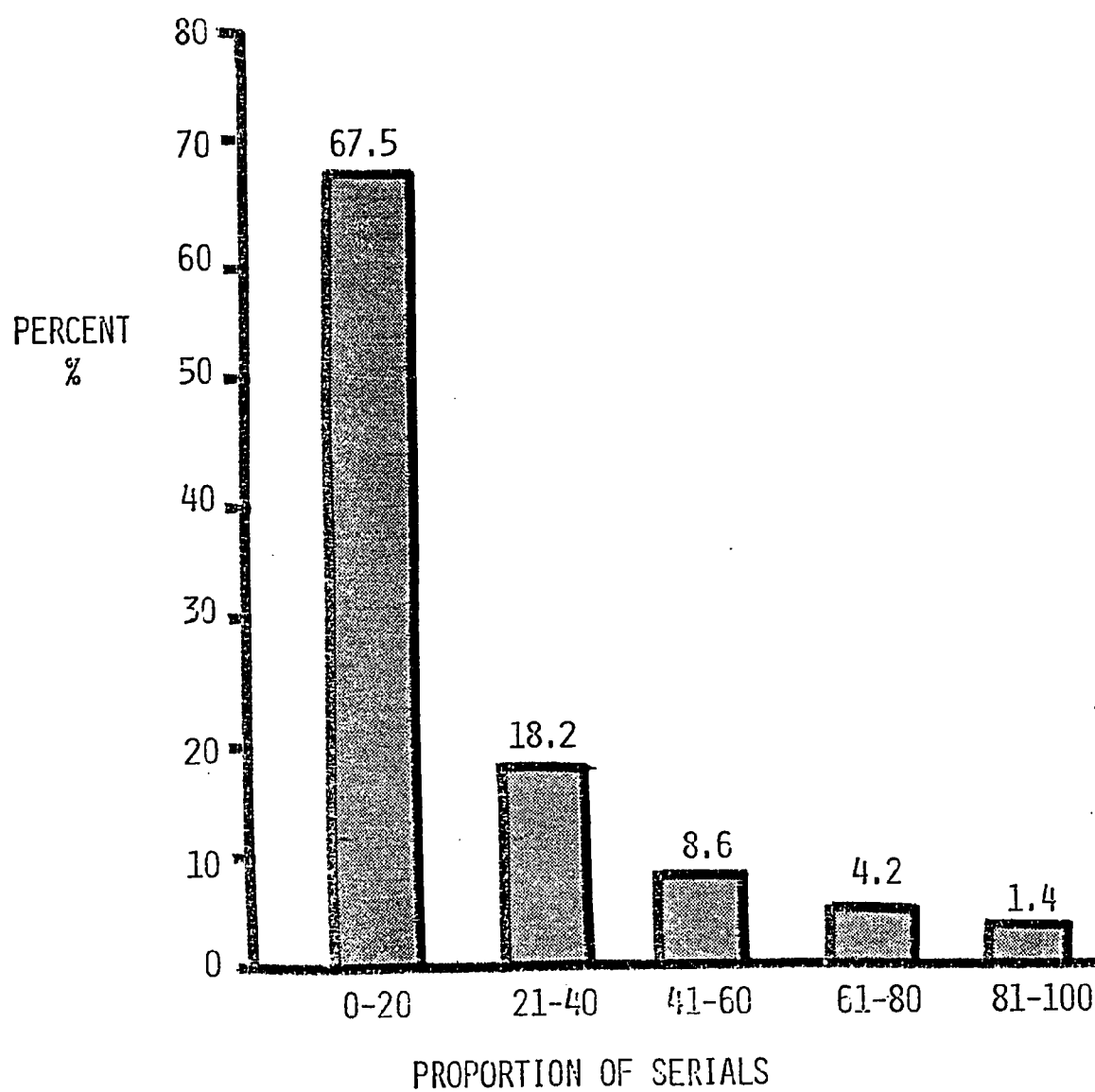
CONDITION OF ELIGIBILITY - LOCAL USERS
(PROPORTION OF SERIAL TITLES)
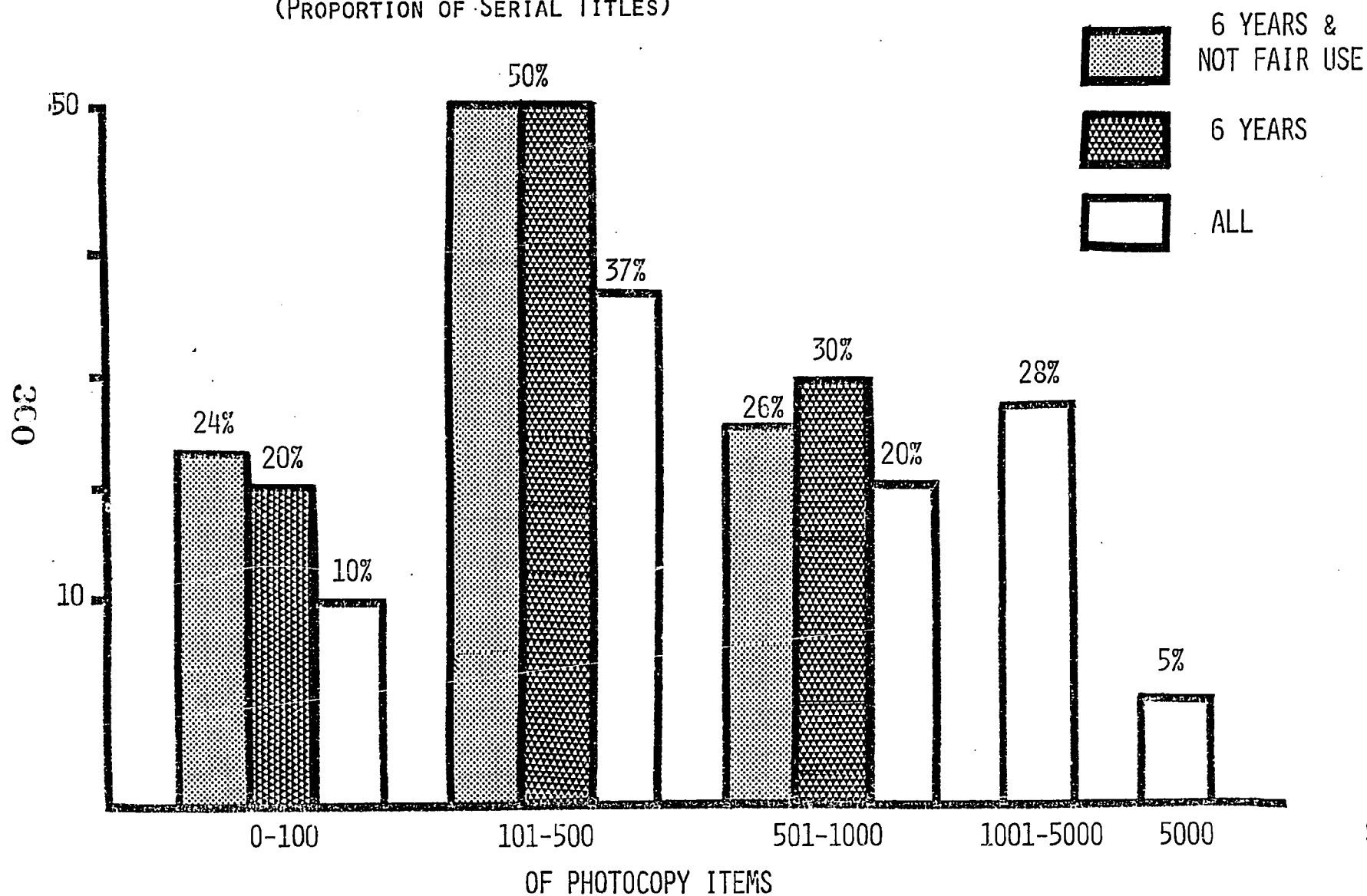
SOURCE: KING RESEARCH, INC.

FIGURE 18

DISTRIBUTION OF PHOTOCOPY ITEMS
BY PROPORTION OF SERIALS

SOURCE: KING RESEARCH, INC.

301

FIGURE 19

some notion of what kinds of serials are in this most heavily copied
20 per cent?

It's of some interest as to whether they are journals such as _Time_,
Newsweek or _Business Week_, where even though they are very frequently
copied that's a small portion of use, or whether they are journals of
very limited circulation, where photocopying might constitute a substantial
proportion of their use.

MR. KING: I think that the best source of that is the MINITEX
data where we have the 6,345 titles that have photocopying for an
entire year.

COMMISSIONER LACY: I don't think any of us wants to read a list
of 6,000 titles, but if there could be some observations and conclusions
and some reflections on this point it might be very helpful.

MR. KING: I looked up 317 of those titles, so I know what those
are. There is one caveat in using MINITEX titles, since it is possible
that a particular industry is located within Minnesota. For example,
there may be less drug industry and more electronics industry.

I'm not sure that's true, but it might be. So one cannot
say for a specific field of science what the use for titles might be.
However, we can get some information as to the use of popular kinds of
magazines, newspapers as opposed to scholarly journals.

I think we can break that down.

COMMISSIONER LACY: I think that would be very helpful.

MR. FRASE: That only applies to the interlibrary loan.

MR. KING: That only applies to the interlibrary loan.

COMMISSIONER LACY: You're not able to do this on the local level at all?

MR. KING: Let me tell you about the difficulties of doing this for local users, as well as for the national estimates for interlibrary loan.

We asked the libraries to give us characteristics of the photo-copying that was done for the short period of time. We got anywhere from one, say, up to 100 or several hundred of these characteristic forms from libraries. We then applied a code for each title.

We initially tried to apply the ISSN but only a few journals indicated ISSN. Therefore, we had to come up with some kind of a common code. We found the best common code we had was the MINITEX, MULS numbers. That is a union code used by MINITEX.

Within each of those libraries, we summed the amount of photo-copying that was done for individual titles. But oftentimes there would be only one or two uses. If there were only 100 observations and 10,000 titles, we would have very few observations for which to make the kind of assessment that you mention.

What we could do perhaps, in a gross way, is sum for individual titles across libraries without making a statistical estimate for the total amount over the entire population.

You see, each of the titles have a different weighing factor. It's very difficult to make the kind of estimate we made with MINITEX.

We can get some gross ideas I think, but not specifically.

COMMISSIONER LACY: Well, we're operating on the assumption that by and large this problem relates to relative and current, because obviously the information is not useful in that field--relative and current scientific and technical journals, and probably primary journals rather than secondary level trade and technical journals. That probably is not much of a problem for the humanities journals, and not much of a problem for the popular journals. I simply have no idea what is true or not.

MR. KING: The thing that we do have is an indication of each journal title that we observed. We determined whether or not it was a non-scientific journal or whether it was a popular magazine or a magazine. It was that kind of breakdown.

We do have national projections for this breakdown by type of library.

COMMISSIONER LACY: When you said scientific and technical, was there any distinction between a primary journal reporting an original piece of research and a news kind of journal? Would a magazine like <u>Chemical Week</u> be distinguished from the primary journal for the American Chemical Society for example?

MR. KING: I cannot say definitely. I don't recall how we broke that out. Let me tell you what we did for another study for the National Science Foundation. We identified roughly 8,800 titles that were considered to be scientific and technical periodicals published in the U. S. We identified a subset of the 8,800 that were considered to be the core scientific and technical journals. That is, we culled out those that were trade journals, newsletters and bulletins, and which were really primary communication vehicles for scientific and technical information. We found that core consisted of about 4,175 journals in 1975. If you are familiar with the Fry-White list they described a subset of that 4,175.

Fry-White had about 2,000 journals which is a subset then of our 4,175. When we did this photocopy study, I asked the coders to use the same definitions that we used on our National Science Foundation Study. I frankly cannot recall whether they did it for the 8,800 periodicals or whether they did it for the 4,175 journals. I just don't recall. [It was for the 8,800 periodicals, so that trade journals were included in the scientific classifications].

COMMISSIONER LACY: Just one other question. Is it possible from your data to make any distinction among society published journals, university published journals and commercially published journals?

MR. KING: No. We do have some data on that in another study, but not in this study. For the scientific and technical area, we have a lot of information on types of publishers and so on.

COMMISSIONER LACY: Could you offer some general observations based on what you know about this field from other studies?

MR. KING: On our other studies we looked at circulation, that is, the number of subscriptions by type of subscription and type of publisher. We also made some estimates of the amount of readings that took place in articles. Obviously the number of readings is correlated to the amount of photocopying that takes place. Finally, we have determined the amount of photocopying that was done on articles that were used for citations. We found in science and technology that 40 percent of these uses involved a photocopied article. In that sense we could make some judgments about the total amount of photocopying that takes place. I just haven't done that.

This chart refers to the intrasystem loans. We found that there were about 14.5 million photocopy items performed for intrasystem loan, about 12 million of those were copyrighted, and about 9.8 million are domestic serials. The amount of photocopying for intrasystem loan for the special libraries is very high. The public libraries were the next highest, the academic libraries followed and then the federal libraries. We find also as we eliminate the amount of noncopyrighted materials and foreign materials that the total amount of photocopy items begins to dwindle somewhat from 14 1/2 million to 9.8 million. [See figure 20]

FOREIGN & DOMESTIC PHOTOCOPY ITEMS
FOR INTRASYSTEM LOAN
(THOUSANDS OF PHOTOCOPY ITEMS)
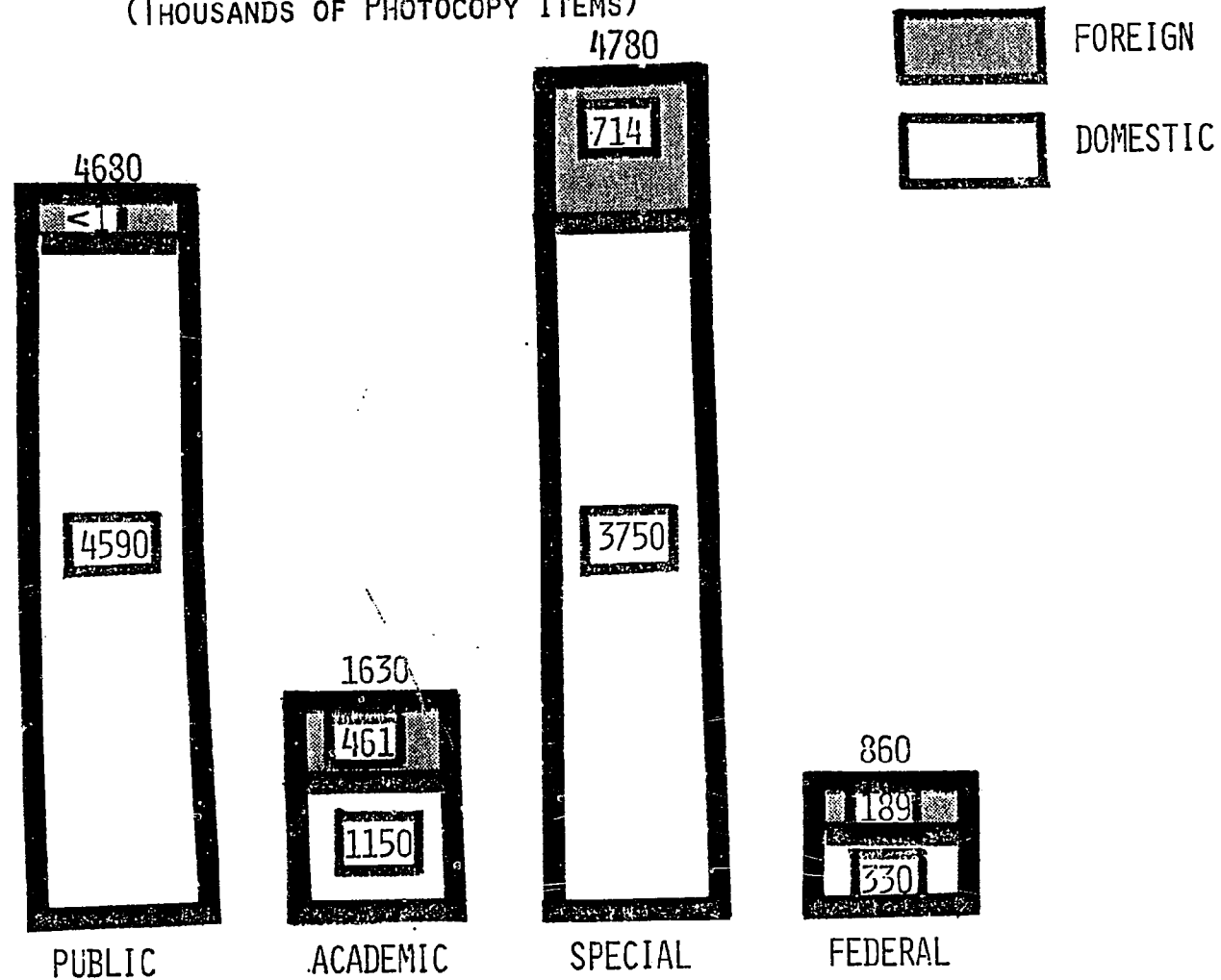
FIGURE   20

COMMISSIONER LACY: On the intrasystem loan on special libraries which is rather surpirsingly high, is the characteristic intrasystem loan there let us say something like library at Linden producing something for an "X" sum on installation in Saudi Arabia, or something like that?

MR. KING: We did make a distinction whether a special library affiliated with was a non-profit or profit making organization.

Again, we relied on the librarians' interpretation of that definition of intrasystem loan. There was a great deal of intrasystem lending by a samll number of libraries in our sample.

One other thing that I should point out is that, going back to some of the raw data, I found that there was a fair number of instances where a central library would photocopy a large number of copies of a single title for a single page or two pages.

I think what is happening, although we have no direct evidence of this, is that the central library received a journal and made a photocopy of the title page or the table of contents and sent them to all the branch libraries for current awareness or for what might be referred to as a selective dissemination of information.

I think about a third of the intrasystem loans is accounted for by that kind of transaction. I did mention this in the report and my recollection is it is about 30 percent.

Again, we applied some additional hyopthetical conditions of eligibility similar to those mentioned above that were applied to interlibrary loan and phtocopying done for local use. We find that 9.8 million photocopy items were made for intrasystem loans. If we take out

those that are over 5 years old the total drops to about 7.2 million photocopy items. If we eliminate those that are made for classroom use, or replacement (again by our definition) the number of photocopy items goes down to 6.8 million. If we include those that are over 6 years old, the total increases to 9.4 million. [See figure 21]. I should mention here that we did not make estimates for the amount of photocopying of 5 and under for intrasystem loans because we did not have observations from borrowing libraries.

We only had it for the central library or the library that was photocopying to lend to another branch library.

If we go back to that condition that includes a single transaction involving more than one copy the number of photocopying items drops from 9.8 million to 3.3 million photocopy items.

Here I use the same definition that I used with local use. That is, we include only those photocopies made for local patrons, and not made for local library staff.

The last slide gives the distribution of the age of the photocopying that takes place for the three different kinds of transactions. The interlibrary loan is the black line [bottom line], the intrasystem loan is the red line [middle line] and the blue line [top line] is for the local users.

What this says is that 11 percent of the interlibrary loan photocopies are one year old, and 35 percent of the intrasystem loans are one year old, and 41 percent of the local users are one year old.

CONDITION OF ELIGIBILITY - ISL
(MILLIONS OF PHOTOCOPY ITEMS)

FIGURE 21
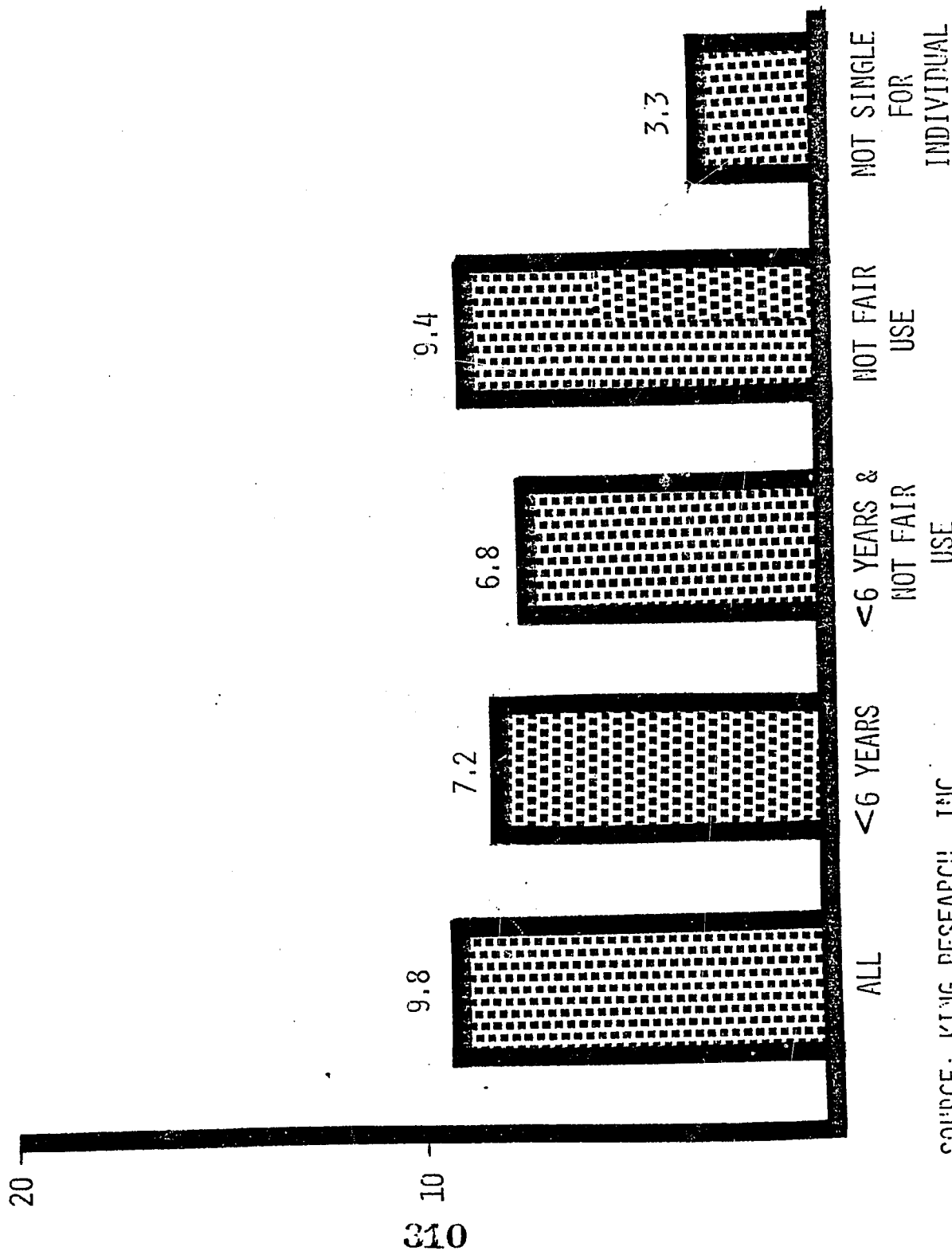
SOURCE: KING RESEARCH, INC.

COMMISSIONER LACY: Well, one year old or less.

MR. KING: Yes, exactly, one year old or less. And going up to here, 54 percent of the interlibrary loans are 5 years or less, 72 percent of the intrasystem loans are 5 years or less and 79 percent of the local users are 5 years or less. [See figure 22].

This says in effect that the interlibrary loans, as I mentioned before, involve older serials and the intrasystem loans for older serials that the serials photocopied for local ulsers, as one might expect.

There is obviously a trend that libraries rely on interlibrary loan or on intrasystem loan to obtain older titles. Perhaps, as the materials get older libraries are less likely to have them on their shelves.

I think that's something one would expect and I think this is a fairly nice picture of that.

COMMISSIONER WEDGEWORTH: Does your data give you any idea of where the breaking point may be for each one of those?

Where it will break. Obviously we know that that does not extend continuously.

MR. KING: I did have the distribution extended to about 20 years, and it is in the report. I do not recall exactly where it is, but we did take it about 20 years. [It is now extended to fifty years].

I believe that about 98 percent of it was overall within 20 years, but that's a recollection that is not a definite number. [The number is actually about 95 percent].

It is carried out though and we do find, as I mentioned
earlier, photocopy items that were over 50 years old. You were not here
when a question was asked whether or not we had eliminated the items that
had a copyright date over 50 years old, and we did not. But obviously
it's an item that we will have to pull out, but we ought to be able to do
that without too much difficulty. [Approximately 1.9 percent of the
interlibrary loans were for serials over 50 years old, 1.5 percent for
intrasystem loans and .8 percent for local users].

I think that pretty well concludes my remarks.

CHAIRMAN FULD: Does that conclude?

COMMISSIONER WEDGEWORTH: I'm not sure you understood my question,
let me phrase it differently. I cannot see it from here, but in one of
those lines you say in 5 years you had 79 percent?

MR. KING: Yes. Right here.

COMMISSIONER WEDGEWORTH: My point is how many years would you have
to go to get say 89 percent where that would represent 89 percent?

MR. KING: Well, I don't have it on this chart, but we have taken
that on out to 20 years.

COMMISSIONER WEDGEWORTH: You do have that?

MR. KING: Yes, we do have the proportion of transactions by age.
Here's the cumulative proportion scale. We do have that. [The break-point
that Mr. Wedgeworth asked for is at 4 to 5 years].

COMMISSIONER WEDGEWORTH: Thank you.

CUMULATIVE PROPORTION OF TRANSACTION

FIGURE 22

SOURCE: KING RESEARCH, INC.

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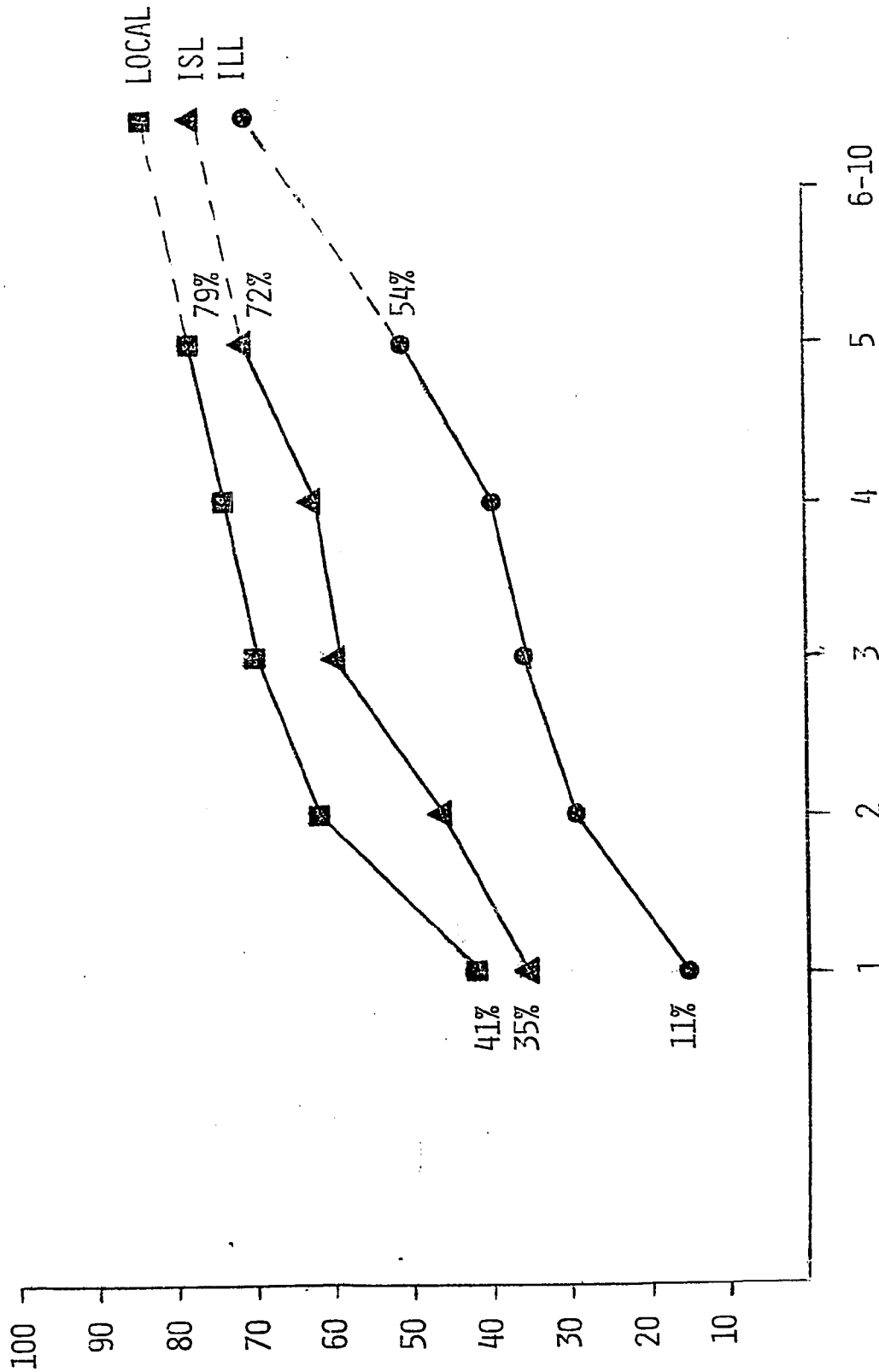
VICE-CHAIRMAN NIMMER: Mr. Chairman, might we have of Mr. King a few remarks relative to the last part of his report.

Namely, alternative royalty payment mechanisms, and your view, if you can go beyond the reports of what would be preferable for that mechanism and connected with that to what extent does the fact that your study does not get into unsupervised machines.

In your view, -- knowledgeable or otherwise, on that question, to what extent then does that leave open the important area of reproduction of copyright works?

MR. KING: Well, to answer your last question, I believe that there surely must be a very substantial amount of photocopying that's one on unsupervised machines. When I say unsupervised machines both unsupervised as well as coin operated machines. I think in particular the amount of that is most extensive in academic and public libraries. The unsupervised machines are mostly found in Federal libraries. I can hazard no guess as to how much more photocopying is really done by those machines. [There is some evidence from three independent sources that about an equal amount, or slightly less, is done by patrons on library machines as done by library staff].

MR. FRASE: Don, isn't there a question and also some information? The libraries are asked the number of machines that are not under their control and also their guess as to whether more or less of copying of copyrighted materials is done on those machines as contrasted with the machines at other libraries.

MR. KING: One could take those data and if you could assume as much photocopying was done on the machine that is unsupervised, as is one on a machine that is under the control of library staff, one could ma'. that projection.

VICE-CHAIRMAN NIMMER: Assuming there is roughly such a comparable copyrighted reproduction, then I take it bears upon what kind of royalty payment mechanism is feasible to harness within a copyright system reproduction by machines.

MR. KING: Yes.

I don't recall the number of unsupervised machines but it seems to me it was about double. Mr. Frase, do you recall?

MR. FRASE: There is a table in here—it's hard to find it.

COMMISSIONER HERSEY: In one set of figures that I noted, I don't know exactly what you mean: 15,400 machines for patrons, 19,900 for staff, would that be correct?

MR. KING: Yes, that's the number we're looking for. That's what I thought, it was roughly double.

So, there are about 19,900 machines used by staff from the 21,280 libraires. In addition, there are about 15,400 machines for patron use.

COMMISSIONER MILLER: Those machines would be not under the control of the library but physically associated with the library so it would not include institutional machines.

MR. KING: That's right.

COMMISSIONER LACY: So I take it there are coin operated machines in the library, and the library does collect the coins. One would assume there would be a record at least of the amount.

MR. KING: We did make an estimate from the libraries. We did ask them, in the last questionnaire that I mentioned, how much total photocopying is done. However, we don't know what the make up is of the type of materials photocopied.

But we do know how much photocopying is done on those machines. It should be pointed out, however, that this number came by recall in some instances. Thus, it is not as reliable as the data we collected by observing each photocopy transaction.

There is one point that we did not address. Within special libraries, or their organizations, there sometimes are machines that are not located within a specific library location but elsewhere in the organization. We don't have any data on the amount of photocopying in these instances.

COMMISSIONER MILLER: At most academic institutions for example, class distribution of photocopies is handled by a completly different office than the library.

MR. KING: Yes.

VICE-CHAIRMAN NIMMER: In discussing possible royalty payment mechanisms, you make the statement that, to the extent that the payments are geared to the particular materials that are being reproduced, this is going to increase the cost greatly of any such mechansim. If I recall correctly.

MR. KING: Yes.

VICE-CHAIRMAN NIMMER: Could you enlarge on that a little?

Specifically, suppose you have a system where there is a coded number on the work being reproduced, and that can be geared into the machine so it will record what is being reproduced. When you speak of increased cost are you talking about the cost of having such a system or assuming such a system would not be more costly?

MR. KING: We meant the cost that is incurred throughout the entire system, including the cost to the library, as well as the cost to the publishers and the cost of administering such a system.

The libraries indicated in the questionnaire that they felt there was going to be a fairly substantial cost that would be incurred if they had to record for each title the amount of photocopying that is taking place within their library.

VICE-CHAIRMAN NIMMER: But this might mean that the libraries would not have to do the recording.

MR. KING: That is precisely right, that is correct.

If the libraries were willing to use a central system such as the Copyright Clearance Center, it would eliminate a great deal of the necessity for them to keep internal records.

Someone is shaking his head over there.

COMMISSIONER WILCOX: Would you explain that?

MR. KING: The way that would be done is that there would be a code on a title page of an article or a volume of a serial. If one could record that number and send it into a central system, the central system would keep track of the amount of photocopying that is done for that particular title.

MR. CROXTON: That is what the library does. If there's a code the library must record, and the library does.

VICE-CHAIRMAN NIMMER: Well, one holds up the code in front of a screen and the rest is done automatically, except that the library would have to send in the tape.

MR. KING: The record has to be stored. It has to be stored to accummulate numbers of photocopy items per title.

COMMISSIONER WEDGEWORTH: I think this could go on. First of all there's a basic assumption that is being made here, that I will challenge. That is, in many institutions it is not the library's responsibility. It is a franchise operation and the library does nothing but make the space available and in some instances it participates in revenues, but it is operated completely by an outside entity.

If you had a machine which was capable of making the record that you are suggesting, there is still the question of your receiving the payment.

I don't think the library is the issue here. The library is really getting the equipment that can make the recording in the first place. And requiring that such recording be reported to some central agency may or may not involve the library.

VICE-CHAIRMAN NIMMER: My question is how much increased cost would be involved in a system that kept track of and geared royalties to the particular royalties we use, without going into who has the obligation at all.

MR. WEDGEWORTH: I understand that. I just want to make that clear.

MR. KING: We had initially thought about asking the libraries to give us such a cost, but then we thought it would be not accurate, really, because you have to have such a system in place to know what it's actually going to cost. But what we did attempt to do then was to try to find out whether they had such a system capability and if not, what additional costs would be necessary to be able to do that.

And a very large portion of the libraries said it would require additional costs to do that.

VICE-CHAIRMAN NIMMER: But that does not determine who would bear the cost.

MR. KING: No, sir, it does not.

CHAIRMAN FULD: Any other questions?

COMMISSIONER HERSEY: I have just a couple of general comments. Speaking to the report as a whole, I think one of us should observe that this is the first extensive data that we have had that is useful to us on the scope and nature of your presentation, and it's extremely impressive to us.

There are a couple of items within your report that I think we may need to go farther with: one, the question of how to verify which items are copyrighted and which are not copyrighted, and you have told us that the items which are not known to be copyrighted are included in

those indicated in your report as opposed to the ones that are not known to be copyrighted. The other general area that I think we may need more material on is the distinction between intrasystem and interlibrary loans.

You have listed the total number of libraries. If I understood you, you said Harvard Medical Library is treated as a separate library, as opposed to the Widener. But when you came to the others those regarding the intrasystem loan --

MR. KING: Mr. Hersey, I think that your point is very well taken. We did not really get into enough definition and examples as to how different libraries recorded their results. I think that would be a very important part of understanding the distinction between the two and I will try to do that, if I can, in our report.

We did have to rely on our definition of intrasystem and local use that was sent to libraries. We assumed that the library interpreted the definition correctly. However, they are the ones that reported it.

We do have examples of such as the Harvard library and the Philadelphia Free Library, and others, where we can go to those individual observations and indicate how they recorded some of the different transactions that took place.

And I think some examples of that kind would be very illustrative.

COMMISSIONER DIX: Mr. King, one thing that surprised me is the very large amount of photocopying done in public libraries. Did you get any indication informally for whom that copying was being done?

Is it largely students using the public libraries for example?

Or for business?

MR. KING: We had those data. I believe those data are presented.

Mr. Palmour of our staff who had done a lot more work with public

libraries had the same feelings as you did. As a consequence, I went back

to look at the data forms to make absolutely certain there was not a key-

punch error, or there wasn't some reason that occurred in the coding or the

editing that could cause a spurious estimate. We did find that there was

a lot of photocopying taking place in public libraries.

We did ask libraries to record for whom the photocopy was made and we

do have those data tabulated and presented in the report.

COMMISSIONER LACY: Did you consider libraries like the New York State

Library for your compilations? Did you consider public and major research

libraries?

MR. KING: I don't recall, sir.

MR. FRASE: Did you handle any state libraries at all?

MR. KING: I don't remember [Yes, we did].

MR. FRASE: So you may not have.

MR. KING: We may not have. But I'm fairly certain that we did. But I

just don't recall at this time, I really don't.

CHAIRMAN FULD: Thank you very much. Let me repeat Mr. Hersey's

comment. All of us found your report most thoroughly useful. Now we

will take a brief recess. We'll recess for five minutes.

(Whereupon a recess was held.)

CHAIRMAN FULD: Before we go to the next item on the agenda, may I

call on Mrs. Risher.

MRS. CAROL RISHER: For the record, I am Carol Risher from the Association of American Publishers.

AAP and other participants in the Upstairs-Downstairs meetings have just received the King report. I would like to comment, with your permission, but we'll do so at a later date.

CHAIRMAN FULD: We'll be in touch with you, and you will be in touch with Mr. Levine. Thank you.

We now come to the last item in this session.

Mr. Stevens Rice, Vice-President of University Microfilms.

MR. RICE: Thank you Mr. Chairman, ladies and gentlemen.

I am Stevens Rice, Vice-President of Editorial Development of University Microfilms.

University Microfilms is in Ann Arbor, Michigan, and is part of the Xerox Publishing Division, Greenwich, Connecticut.

The company is a publisher of serio-graphs, documentations, and so forth, on demand, primarily for libraries.

My purpose in coming here today is two-fold. First to report on an experiment of ours at Wayne State University, in Detroit, by which we can account for copies of periodical articles and other materials made on copy machines.

Second, to explain/the commercial photocopying service we have at the University Microfilms.

There have been a number of reasons given for the prevelance of photocopying wherever it's found, and in some cases it seems to us that it's been difficult to allocate the needy cause.

Some have said it's the great

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prevelance of copy machines, and others stated it
was a cheap way, and so forth.

But it seems to us that in every case
we have to have someone -- some one person who makes
a decision that he's going to make copies and makes
a decision on what he's going to use it for, and presses
the button to make the copy.

So, we start from the point of view that
if we can do something with that person then we may
be doing something that is valuable. Whether we are
or not, I am not sure.

But we have had a device designed that
will record a transaction when the button is pressed,
and this device is presently being tested at Wayne
State University.   It removes from the individual
any decision as to whether the use is fair, since
everyone who uses it will contribute a royalty to
the owner of the copyright unless the operator in
the library wants to override the device.

Now, this has just been installed
on an experimental basis. Wayne/State University is a
typical metropolitan university with an enrollment
of about 25,000 students and a library of about
1.3 million volumes.

Our objective in the experiment is
to determine whether we have a system that will
make copies under conditions acceptable to students,
acceptable to faculty, and to the library staff in
an academic library, as well as to test the reliability
of this sytem under actual working conditions.

We have received permission from a
number of publishers to reproduce articles from
their journals in a test situation, and we will
pay royalties on all monies received.

However, at the present time we are
much more interested in testing the system than in
making money and as far as we are concerned, the
system is around at an entire loss for us.

And I think that publishers who are
cooperating in that test are more interested in
test results as well as they are in making money.

If we implement and decide that this
is a workable system for some purpose, then of
course, we'll have to do it on a business like
basis and we would have to go back to the publishers
who want to cooperate in the system with us.

We have in the system about 160
journals for which we publish issues almost

concurrently on microfiche cards, and I believe

each one of you has a microfiche card so you can

see what goes on.

These titles were chosen by us from

a list of titles Wayne State believe would be useful

in the system. We have files for only one year in

this system. Each microfiche film card is coded

with the serial number, the International Standard

Serial Number, of the title which relates to a pub-

lisher and that is done in the form of a bar code

on the upper right-hand corner of the microfiche,

card.

This bar code is somewhat similar to

the bar code used on products in supermarkets. From

the master fiche library personnel can make duplicates

in a simple desk-top copier. About the size of

this machine here. Or they can make enlarged prints

if they wish to do so.

This can be done in another machine

which enlarges from the microfiche. There is an

advantage in the film in that it is inexpensive

and the patron will get an entire issue in most

cases.

The disadvantage is that he has to

use some kind of optical aid to read. The advantage
of the paper copy is that the patron can write on it,
and can read it without optical aids, and the dis-
advantage is the additional expense because it costs
more.

In either case he can take the infor-
mation away with him. This summer that have been
only about 40 patrons a day, and of these, roughly
25 per cent get copies to take away. The other 75
per cent are content to look for information on the
microfiche and return it.

When printed paper issues were
stored in the same area at Wayne as the microfiche
files, in the early days of the experiment, half
the students chose to consult the fiche rather than
the paper.

Since that time, paper copies have
been removed to an upper floor and now more than
95 per cent of those who come to inquire about
periodicals consult the fiche rather than go up-
stairs to consult the paper.

Since the entire collection of
master fiche takes only a small fraction of the
space taken by the same information on paper issues,

the attendant has ready access to the master file--
that is, it's nearby--which he searches for the
fiche containing the information requested by the
patron.

He then strokes the bar code by
running a light probe across that, just as a clerk
in a supermarket does, and this enters a serial
number.   This is an identifying number of the
title, which in turn identifies the publisher.

It transfers this to digital form
in a magnetic tape and unlocks the machine that
is to make whichever kind of copy the patron wants.

The master is inserted into the
appropriate machine and, as copies are made, the
number of cases in the case of enlarged copies
or the numbered fiche is recorded on the magnetic
tape.

There can be no errors under this
                [Laughter]
system./ The device either records the code and
enters it onto the tape as a series of electronic
impulses or it does not read the code or gets
a misreading or something of this sort in which
case no entry is made on the tape and the copying
machine will not be operative.

If an incorrect article is copied or
no record is to be made, the operator has an over-
ride mechanism in the form of a computer keyboard
that can record the appropriate ISSN, that is to
say, the operator can key in the appropriate number,
or an override button can unlock the machine if
no record whatsoever is to be taken.

In addition to being recorded on the
magnetic tape, the code is also printed onto a
paper tape for a permanent record and is also dis-
played on a small screen.

These are not necessary safeguards
but we added them to the system because we found
that the operator needed reassurance that something
was being entered onto the tape.

At a convenient time the tape cassettes
are removed and replaced by blank tape ready for more
entries.

The information on the filled tapes
is entered into the larger computer. There is a
computer in connection with the device but the tape
can be taken away and entered into a larger computer
at another site.

Where the information is rearranged

by title and publisher, or in whatever position
they wish to have it, so that a statement may be
printed and sent to cooperating publishers.

Students, the faculty, librarians
have so far accepted this system, despite the fact
that it has been in service primarily only during
the summer session, where there are a good many
in-service teachers and older persons in attendance
who are generally more critical and less adaptable
to new devices than the undergraduates.

The reliability of all of the machines
is good and we have encountered no serious equipment
or operating problems.

These test objectives have been
established for our purposes to enable us to make
certain business decisions and, of course, will not
necessarily coincide with test objectives that
the members of the Commission might like to have.

The complete system, perhaps in
modified form--almost assuredly in modified form--
has the following potential uses.

In a library or a consortium of
libraries, where volume is high, and transaction
recording is essential.

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An inventory control device for a
publisher who wishes to make just a few copies
each from many titles, that are at remote locations.
For example, a publisher who might want to make
copies of titles overseas, or a United States
Information Agency, who might want to make copies
of articles from microfiche in foreign locations

And wants to keep track of all of
this. The test at Wayne University has very limited
objective and will run for the duration of the
present semester only.

And at that time we'll make a
decision as to what we are going to do. We think
that someday we may want to print copies as
duplicate microfiche or as a lot of paper copies
at several different geographical locations remote
from Ann Arbor. And this system will be useful
for accounting for royalties and copies made and
this kind of circumstance too.

We have not yet decided what the
cost to the library would be if we decide to
implement this system commercially. We have
made only one of these devices and we do not know
what the manufacturing costs would be on a large

scale. While we expect it to be competitive to current copying systems, a lot more work on pricing will have to be done before we can say anything about it.

Wayne is making enlarged copies from our fiche for five cents a page. But that has nothing to do with reality. That price was chosen simply because it corresponds to price in the coin operated machines making copies from the paper journals.

As a matter of fact, they have other fiche other than those which we have supplied for which they charged 10 cents a copy.

We have a slide presentation that was prepared by Wayne State University to publicize the program to their patrons.

If you would like to see it, we will show it to you.

Of course, it features the procedure from Wayne State Library point of view and not necessarily from ours.

CHAIRMAN FULD: How long does it take?

MR. RICE: This takes about 7 minutes.

CHAIRMAN FULD: We'll be happy to see it.

MR. RICE: Thank you.

(Presenting slide presentation.)

"Wayne State University library pre-
sented a look at an experimental photocopy micro-
fiche program. Increased costs for binding, storage
and handling have forced libraries and publishers
to consider microfiche for active collections.

"Many major resources are now available
on microfiche, examples are Educational Resources
Information Center, American Statistical Index,
and Congressional Information Service.

"These are all quasi-governmental
publications. Other collections now available
on microfiche include newspapers like the New York
Times. Since 1969 most publications of microfiche
have been standardized to a 98 frame format to
adhere to national microfilm associations and
specifications.

"But in order to read these collections
microfiche readers are needed. For example, special
stations are available in each of the Wayne State
University libraries.

"Printing from microfiche reader
printers has previously been a time consuming

process. Each single exposure required at least
30 seconds or more to complete. Xerox, however,
is one of the vendors that has developed a high-
speed microfiche printer which will print 98
frames in 106 seconds as an alternative to the
self-vending units.

"Since January, 1977, Wayne State
University has leased a Xerox 970 to provide an
on demand copying service for its microfiche collection
of periodical titles.

"In order to test user reaction to
library materials on microfiche, Wayne State
University Libraries and University Microfilms
International have developed a unique photo
duplication program to print hard copies from
microfiche via the Xerox 970.

"This program is intended to serve
as a test for possible use by libraries through the
country, demonstrating that by using microfiche
collections libraries can provide materials and
duplicating services quickly and economically to
users while obeying new copyright guidelines.

"200 periodical titles have been
selected for the experiment by Wayne State University

libraries. The Detroit Public Library and the
University Microfilms International hardware used
for the test are a light pen for scanning decoded
journals on microfiche and a counting/recording
device, a fiche duplicator, and a Xerox 970
printer.

"The program is centered in the Wayne
State University Educational Library. A majority
of the 200 test titles are high-use education
titles.

" When patrons request one of the
tested journal titles at the Education Service
Desk they are given a microfiche instead of the
paper copy.

"Special readers are available to
scan the fiche at the desk. If a patron would like
to make a copy of an article from a journal on
microfiche the on-demand service is available for
a total of 58 hours per week.

"Fees for duplication are five cents
per frame for journals. This fee matches costs
available in other paper copiers in the building.

"Each time an article or page from
an article is copied from the microfiche test

collection on the Xerox 970 the accounting system

monitors the number of exposures. With this data

University Microfilms International will reimburse

publishers for use of their materials.

"Thus the immediate objectives of

the test program are to determine will patrons

use microfiche collections of journals rather than

paper collections?

"Will the print as needed copying

service provided by Xerox 970 be attractive to

the library user?

"Will publishers approve of the

accounting system to be used as part of the reim-

bursement program?

"If the system is successful, libraries

can expect to realize considerable savings in the

maintenance of periodical collections by reducing

shelving requirements, reducing maintenance costs,

and curtailing binding and processing needs.

"In addition, patrons will be assured

of the consistancy and availability of materials.

In turn publishers will be assured of having an

accounting mechanism which will monitor all copies

made.   336

"Therefore, the real test of the program's usefulness will be patron and publisher acceptance.

"If you would like to see the test project in action, tours can be arranged at the University Microfilms International booth."

(End of narrative from

slide presentation.)

MR. RICE: The reason it mentions the booth because this was prepared by Wayne State for the American Library Association meeting which was held in Detroit this past year.

The slides you have just seen show some of the reactions in a library to control copying of a journal's articles, but the bulk of our copying reproduction is done in our plant in Ann Arbor, where copies are made on demand, one at a time, as ordered by our customers.

We have in our store nearly 12,000 titles, of which half are currently received.

Nearly all of the titles are complete. That is to say we have all the volumes from beginning to end of publication or in the case of those that are still being received, from the first to the most

recent issue.

In every case, where necessary for
copyrighted publications we have agreement with
publishers and pay royalties which may vary from
one publisher to the next,

Since agreements are negotiated
individually. In some cases we have the right
to make copies only of complete volumes by micro-
film or in large size on paper, while in addition
we also have the right to make copies of separate
articles from some of these titles.

We have permission to make copies
of articles in separate issues from 4,000 current
journals.

The articles are sold at $6 each,
regardless of their length. The greatest share
of expense of reproduction goes not to the making
of the copy, but to searching and retrieving the
separate articles, and to account for them.

For this reason we have payment in
advance and that's why we have a uniform fee
regardless of the length.

Up until fairly recently, we did not
keep any separate accounting

of the articles we made, in a separate account. It
went into the publisher's account of course, but
we could not break out separately the kind of
use that was being made of the periodicals.

It is a small part of our business
but we believe very strongly, however, that document
reproduction may become a much more significant
factor in the information business as libraries
share materials with each other at a greater rate
and publishers must concentrate on publishing
articles which appeal to many subscribers in order
to continue publishing. Consequently there is
not so much demand for subscriptions to the journals
which are not used very much in libraries.

As long as we charge a fair price
and give good service we expect this part of our
business to increase. We now give overnight service
in most cases, and our limit is 3 days for the
reproduction of separate articles.

Whether the article reprint repro-
duction grows as well as I have just forecast
depends in large measure on what our competitors
do. We look on libraries, library consortiums,
proposed periodical centers and commercial reprinters

as our competitors.

Some of these are friends as well as
customers too, but they are still competitors at
the present time.

We don't know what effect a copyright
reproduction center will have on our business. We
are prepared -- copies made in non-commercial
institutions will probably not be fully costed.

So our prices   may seem
high. Some publishers will no doubt support the
center to the exclusion of other commerical possibilities,
if by pricing it is perceived by the publishers that
they may make more money.   For this reason nego-
tiations with publishers for copyright may become
more difficult, and if it does, then of course,
that will affect us.

However, we see our service as comple-
mentary rather than as competitive to the center.

Section 201C of the new law on the
other hand which regards   certain authors'rights
will probably not affect our negotiations with the
publishers although some thought it would.

But some publishers, at least, are
obtaining express rights for publication from

authors. We believe that this trend will continue
and be increased. We do not believe that the new
copyright law in itself will have a substantial
effect on the number of copies of a journal article

made, However, the new law has received so much
publicity that the most likely people to want to
have copies--educators, students, researchers,
librarians--have an increased awareness of the
copyright owners rights.

And we expect to continue to make
copies on an increased basis because we have
materials and services that users want. In
addition some librarians and other institutions
will find it difficult to have to interpret fair
use on every copy or have the administrative
burden of accounting for the transactions.

And so they turn to us. We expect
a trial-and-error period and we are prepared for
that.

I hope we can do something to make
such a period short. We may see many changes or
very few changes in our document reprint business,
but we do look forward to working with libraries
and publishers and perhaps we can do both.

CHAIRMAN FULD: Any questions?

COMMISSIONER DIX: Steve, your bar code, on your new gadget, identifies the journal and hence the publisher, not of course the article and then the author.

I wondered whether in your preliminary discussion with publishers this is going to become an obstacle or whether each publisher will simply find some way to --

MR. RICE: So far the publishers have not found it difficult to give us permission, but you must remember, Mr. Dix, that the publishers have given us permission for this program only for a trial period.

COMMISSIONER DIX: Yes, I understand that.

MR. RICE: And we look forward to the day when publishers may put on each journal article some kind of code which can be read by a machine.

We believe that this has to come because to transfer codes from one piece of paper to another by hand is irksome and troublesome and leads to error.

So we think that day will come. But it's not here yet.

COMMISSIONER WEDGEWORTH: It is difficult

for me to focus on what you mean by the service

that you offer, since at varying times in your

presentation, you are emphasizing the machine,

which is marketed by your company and the microfilm

service which is marketed by your company, and it

involves an assumption that the system is the most

efficient way of providing this service using the

machine.

However, I am very much impressed

that the problem that you emphasize of getting the

coding of/each journal article, isn't really a problem,

when you look at it in a more efficient way, which

is simply to pay for the right to copy in acquiring

the fiche itself, and not getting involved in all

of the individual transactions associated with coding

and individual articles and recording the number of

times that this has been copied at a particular

location.

But it seems that there are some

internal conflicts in the various services that

you get together at any one time.

MR. RICE: We have only one service and that

is the service that we furnish from our plant in

Ann Arbor. And there we make all of the copies.
We do know what articles are copied and what
publishers have published those articles and so
forth and so on.

The machine is simply an experiment
which we are running for a very short period of
time to see if it is more efficient to make
articles -- make article copies on the machine
with the transaction
recorded by machine.

We see the possibility that it may
be to the advantage of libraries to make copies
on such a machine recording them with such a device,
in various places in the country.

The libraries have the material and
it's a logical thing to us that they would make
the copies.

COMMISSIONER WEDGEWORTH: Yes, but more
efficient is a comparative term. Now more efficient
compared to what?

MR. RICE: I was thinking of more efficiently
than we do it by hand, in our shop in Ann Arbor.
Perhaps you're thinking of more efficiently than
it is done in the library now.

COMMISSIONER WEDGEWORTH: I am thinking of
the whole system. It involves an assumption of a
transaction-by-transaction of approach,

And in my opinion that isn't the
most efficient.

VICE-CHAIRMAN NIMMER: Depending upon the
standards you're talking about -- it's more
efficient in terms of paying or distinguishing
between payment for articles that are being used
and not paying for articles that are not being
used.

You lose the fine measure and,
in a sense, the justice involved in paying for
that which is used and not paying for that which
is not used.

CHAIRMAN FULD: Well --

COMMISSIONER WEDGEWORTH: I want the record
to show I think it's a very useful experiment and
I appreciate your presentation that you made.

But the system itself does in a
sense shape the direction in which you expect things
to go and I wanted to be clear that there are some
other directions in which you may proceed.

MR. RICE: It shapes a possible direction which

we believe may come. We haven't made up our minds
altogether yet, but we did want to have some kind
of system, Mr. Wedgeworth, where we could tell what
royalties went to what publisher, and not just have
a kind of arrangement which individuals and publishers
can have, but which commercial companies such as ours
could not very well have.

Suppose a publisher came to us, or
suppose the library came to us and said, look, we
haven't made any copies, therefore, we don't want
to pay as much as you are charging us and so forth.

You get into all sorts of problems.

COMMISSIONER WEDGEWORTH: Was any consideration
given to the fair use rights of the individual
concerns since --

MR. RICE: There is an override on the machine
and the present library system is operating the
machine. If it's a case of fair use, the royalty
-- the accounting part of the machine can deal with
it.

COMMISSIONER WEDGEWORTH: You're assuming the
operator will make that decision? Or the patron
will make that decision?

MR. RICE: We are assuming that the decision

will be made in the library by Whoever makes it now. The patron does not operate the machine.

VICE-CHAIRMAN NIMMER: Mr. Rice, what can you tell us about the increased cost by virtue of this ability to mention item by item, rather than a blanket license?

MR. RICE: You're asking about the cost of the device?

VICE-CHAIRMAN NIMMER: Yes.

MR. RICE: What's that?

VICE-CHAIRMAN NIMMER: The device itself and the time expended in working the device.

MR. RICE: I don't think that the time is as important/element as one might first think. Because it reacts with the speed of light.

It's the most efficient kind of recording that the chain stores have found, for example. I wish I could say more about price.

I have asked our people and they will not commit themselves, but they will go this far. They will say, well, the cost will be about the same as that of a recording device at the check-out counter in a chain store.

And I'm not sure what that is, but

probably a couple of thousand dollars, $2500 or even more.

COMMISSIONER WILCOX: You mentioned the ease with which the user was willing to make this adjustment to a new form. I wonder if you've done any studies or -- any studies at all on any reaction or what is the willingness on the part of the publisher to make some basic changes.

In one way this would be an ideal situation, to start putting articles in as discreet items, rather than following the system,

Where for the convenience of publishers we have provided articles and for the convenience of a library we have provided issues for volumes, when the individual only wants a specific article.

This would offer an ideal situation, and you could reverse that.   My question is, if you have gotten any indication from the publishers, on how they could relate to this kind of a change.

MR. RICE: We now have a cooperative program with the University of Chicago.   In one of their journals they publish only abstracts of some articles.

These are articles which are just as worthy, in their opinion, to be a part of their journal as any other, but they may have several conditions.

They may be of such a nature that they are of interest only to a few.

They may have a great number of pages as, for example, a computer tape print-out as an integral part of the article, and so forth and so on.

We publish these articles on their demand, in cooperation with them, and in response to their readers.   So in effect we do have a bank of separate articles which are published by demand.

But on the other hand   they are publicized and made available to the regular journal publishers. We expect this trend to continue.

COMMISSIONER WILCOX: The second question: have you done any thinking at all about what would be required to put a system like this in operation?

How many units would be required to make it operational? Would it require 10 systems

like this, 50 systems, 100, 1,000?

MR. RICE: You know, have the country?

COMMISSIONER WILCOX: Yes, to make it economically feasible.

MR. RICE: We haven't really considered that yet. And the reason we haven't is that we are not sure that we have the right configuration of machines.

The Xerox machine that we are using to make the microfiche to hard copy pages is very powerful, and it is -- it may be that it's just too powerful.

It certainly is too powerful for the number of the requests we currently have. And we think that unless -- a less expensive machine might be more suitable.

So we would have to design a system -- we would have to design a configuration of machines to go with the system disposed to us at the present time. Then we could tell you.

COMMISSIONER MILLER: Has there been any development in the last few years on individual microfiche readers that would be economical enough so that the average student or professional could

have one?

MR. RICE: Microfiche readers have gotten a lot less expensive, more portable and better. They are certainly simpler to use than roll film readers.

The goal of a $15 viewer which is really very good has not been attained, in my opinion, but you can get a good one for $100 that is satisfactory. I use one in my office.

COMMISSIONER MILLER: Is it likely in the next five or ten years I could get one, let's say for $75 that will operate on the New York City Subway while I sit there?

MR. RICE: The possibility exists. The difficulty is in designing it, which is so terribly, terribly expensive, that you have to have the sure market before you begin. Nobody has that kind of a market.

If I might hazard a guess, I don't think it's likely that you will. But I think you'll continue to see some improvement.

COMMISSIONER MILLER: Let me ask you a second question,

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picking up on Alice's question.

When you speak of the trend of making available

on demand copying of individual articles, not

initially posted into a discipline journal, do

you think that trend is likely to reach the pro-

portion--assuming also the greater   availability

of cheaper individual microfiche readers.--of your

company becoming a first line publisher of articles?

MR. RICE: Oh, well, I don't think we could

make the assumption that we would do all of the

publishing.

COMMISSIONER MILLER: Not all, but that you in

effect would provide an alternative mechanism for

an offer to the classic -- for professional journals.

MR. RICE: We are now providing such a service

and the proviso that we have   is that each article

that is received by us must be juried by the peers

of the author,

by a professional society, by a

university, by a recognized university department

or a department in a recognized/credited first-

rate university --by a university press, or the

like.

Most of the monographs which we

have received so far have come from the university

presses.   They are the publishers; we simply

make the copies in those cases, and the articles

are of a quality which would ordinarily be received

and published by the press. But for economic reasons

they cannot do so, because the quantity is too low

for them to be able to   publish   advantageously

so they can get the price down.

For example, if you are a university

press director and have the option of publishing

a monograph which you know will not sell more than

500 copies, or not publishing, you just won't publish

it.   So we are doing that kind of publishing

now.

Yes, we think that will increase

considerably. We haven't set any parameters

on it. It's just too soon, in our opinion.

MR. FRASE: Steve, what is the nature of

the practical arrangements with the publisher on

the single article? Are they exclusive or not?

Can a publisher make an arrangement

with you   to supply certain articles that go

into the system, or make direct contracts with

big users? What is the nature of the contract?

MR. RICE: In the first place, it is not,
begging your pardon, an easy thing to deal with a
multiplicity of publishers. We have found through
experience that there is no such thing as a standard
contract.

Each one is negotiated separately,
for certain rights which the publisher has which
he can give to us, and those rights vary.

We don't have exclusive rights to
article publishing. So that, of course, the
publisher can go into any system or give the
rights to anyone he wishes.

It is the publisher who gives the
rights, not we. So, that is his factor to determine,
and not ours.

Each one is separate, yes. The
publisher can do whatever he wishes or he can with-
draw from any contractual arrangement he has with
us at any time he wishes.

We have a provision that we be
allowed to finish out whatever volume we have
started.   That is because we have already put
money into it and so forth, but a publisher can
withdraw at any time.

COMMISSIONER LACY: Following up on that, one of the problems is contracts. One would think there's a possibility of a private company taking more of the role of supplying copies of journal articles needed as you now do. I see whenever anyone wants to obtain a doctors' thesis, he would normally go to you rather than to the library or university for copies.

In lieu of a library's photocopy of individual copies of any particular journal, one consideration would be to provide very wide coverage, if you're going to be some service. You say there're about 4,000 journals you have the right to work with?

MR. RICE: Excuse me sir, for a special separate article coverage.

COMMISSIONER LACY: Yes, I suppose there would be two kinds of limits on your expanding that to a larger number of titles. It's been suggested it would take 40,000 titles to do the kind of job that has been prepared and proposed.

One/limit would be the paper work and the difficulty of negotiating with the publishers

to get the rights, and perhaps the resistance of

publishers to doing it. There also would be the fact

that you are simply not interested in investing

in the ability to provide copies of a title of a

journal to which you might only have a very few

copies in a given year.

Your interest would be in the

journals that would provide the business. If you

had no particular difficulty in getting rights

from the publishers, or if they would be prepared to

give them rather freely, and terms that were, I

assume reasonable, how many titles do you think

it would be worth your while to put into the

system?

I'm not talking about the new

State

Wayne/University system.

MR. RICE: Yes, sir, I understand.

I don't know.

COMMISSIONER LACY: One would have to guess,

but I mean is it like 5,000, 10,000, 50,000?

What range?

MR. RICE: I think we have enough titles now

with 4,000 for single-article copy, I don't think --

there are certainly some titles we would like very

much to have, and a system for which we don't have

the right, so I don't think we can choose, but I

think "a number" is all right.

.In our general program for libraries

in which we photograph only complete volumes of

periodicals, we can photograph economically for

surprising few.   We do it on a priority basis;

we can photograph economically for as few as five

to ten subscriptions to the microfilm edition.

So that may give you some idea.

COMMISSIONER WILCOX: You stated you were

trying to test this in two areas; one the user--

the accessibility to the user, the libraries and

the publisher. I wonder if you might convey

any speculation of what impact the system would

have on those in the relationship of these three

groups.

MR. RICE: Well --

COMMISSIONER WILCOX: Does the potential

rather dramatically change the roles of the three?

MR. RICE: Well, I think or I hope I am going

to answer what you asked, but I am not sure.

I think the publisher will be in

favor of any system which seems fair and which seems to him to be a service to subscribers and potential subscribers, and of course, he wants a return as well.

But I think that the return in any case is not going to be anything like his subscription return in all probability, so that he wants to give it additional service.

We have had acceptance from both the library and from the people who use the library, and we have not -- we have reported/publishers what we are doing, but we have not gone back to them and said, are you satisfied? I don't think we have enough data yet to do that.

I think that we need to collect more information before we take that kind of step. Have I answered your question?

COMMISSIONER WILCOX: I did not expect you to have data. I just wanted you to speculate what the impact would be.

MR. RICE: I don't think I could even speculate, as to that point.

CHAIRMAN FULD: Thank you, Mr. Rice. Before we adjourn, any other statements?

MR. LEVINE: Just one or two statements very briefly.

This is from Ms. Risher.

CHAIRMAN FULD: Thank you.

MR. LEVINE: I would ask that this statement be read into and be made part of the transcript of this meeting.

COMMISSIONER WEDGEWORTH: I object. What purpose would it serve by reading it into the record?

MR. LEVINE: Simply that it would be more widely distributed, and the information would be made available.

MS. RISHER: The Commission at the January meeting did ask for continued reports from the Copyright Clearance Center to see what was going on and how it was progressing.

This merely complying with that request of the Commission, to tell the Commissioners what has happened. It is not really for the purpose of—

CHAIRMAN FULD: It will be received.

MS. CAROL RISHER: I am Carol Risher from the Association of American Publishers presenting the following statement on behalf of the Copyright Clearance Center for inclusion into the record.

The Copyright Clearance Center, Inc. has been formally organized as a not-for-profit organization incorporated in the State of New York. The Department of Justice has completed its business review and has given the Center clearance indicating that the Department

has no intention of challenging the organization or operation of the
Center under anti-trust laws.

The Board of Directors held an initial organizational
meeting of September 1, 1977. Officers and Members of the Board are:
Michael Harris, John Wiley and Sons, Inc., Chairman; H. William Koch,
American Institute of Physics, Vice-Chairman; Ben H. Weil, Exxon Research
and Engineering Co., Vice-President and Secretary; James Barsky, Academic
Press, Inc., Treasurer; Garth Hite, Atlantic Monthly Press; William
McElroy, Chancellor, University of California, San Diego; Barbara W.
Tuchman, Author.

The Board expects shortly to appoint a fulltime
president. The Center will be fully operations by January 1, 1978.
After solicitation of bids, a contractor to operate the Center was
was selected and it is expected that a formal contract will be authorized
by the Board of Directors at their next meeting on September 21.
This will enable the contractor to test and prepare the mechanism
prior to its actual operation in January.

A handbook for serial publishers specifying the
procedures they should follow to use the programs of the Center has
been distributed to publishers of 2,500 serials. Copies of the handbook
will be distributed at the meeting of the International Groups of Scienti-
fic, Technical and Medical Publishers on October 11, in Frankfurt,
Germany, to assure that non-American publishers will have adequate
notice to utilize the Center. A handbook is in preparation for users

who desire to use the Center to facilitate their photocopying.
A workshop/forum for users will be held September 26 in Chicago.

Although it is anticipated that initially scientific, technical
and medical publishers will account for a large number of publications
entered in the Center, the Center is open to all short works and every
effort will be made to enroll publishers of such works.

MR. LEVINE: There is one other housekeeping item. We had
considered having a December meeting on the West Coast. There has
been a suggestion by one of the Commissioners that that would be very
inconvenient and that the meeting be held instead on the East Coast
and the January meeting perhaps be held on the West Coast.

Would that be all right?

CHAIRMAN FULD: That's too far ahead.

MR. LEVINE: Has anyone any objections to that change? I would
suggest for the January meeting the 12th or 13th of the month.

COMMISSIONER DIX: The October meeting is secure for
Washington?

MR. LEVINE: Yes. And November will be either in New York
or Boston, preferably Boston.

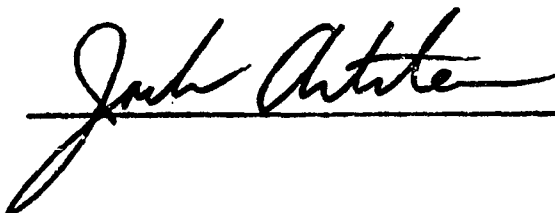CHAIRMAN FULD: I think you had better canvass the Commission.

MR. LEVINE: All right. I am suggesting January 12th and 13th.
If that is inconvenient, would you please let me know before the next
meeting?

CHAIRMAN FULD: It that's all, we'll adjourn to the October meeting,
which at the moment is scheduled for the 20th of October in Washington.
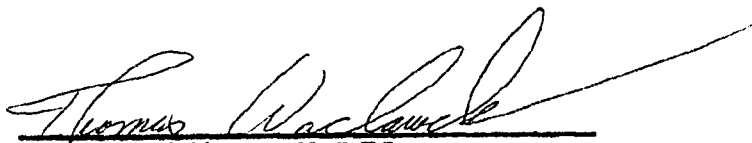If there is any change, Mr. Levine will so notify us.

(Whereupon the meeting was adjourned.)

STATE OF ILLINOIS)
) SS.
COUNTY OF C O O K)

        I, JACK ARTSTEIN, C.S.R., do hereby certify that I am a court reporter doing business in the City of Chicago; that I reported the testimony given at the hearing of said cause, and that the foregoing is a true and correct transcript of my notes so taken as aforesaid.

SUBSCRIBED AND SWORN TO BEFORE
me this _28_ day of _September_,
A.D. 1977.

_____
        NOTARY PUBLIC

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